THE REAL STORY OF MOTOCROSS CAT

34485

IND

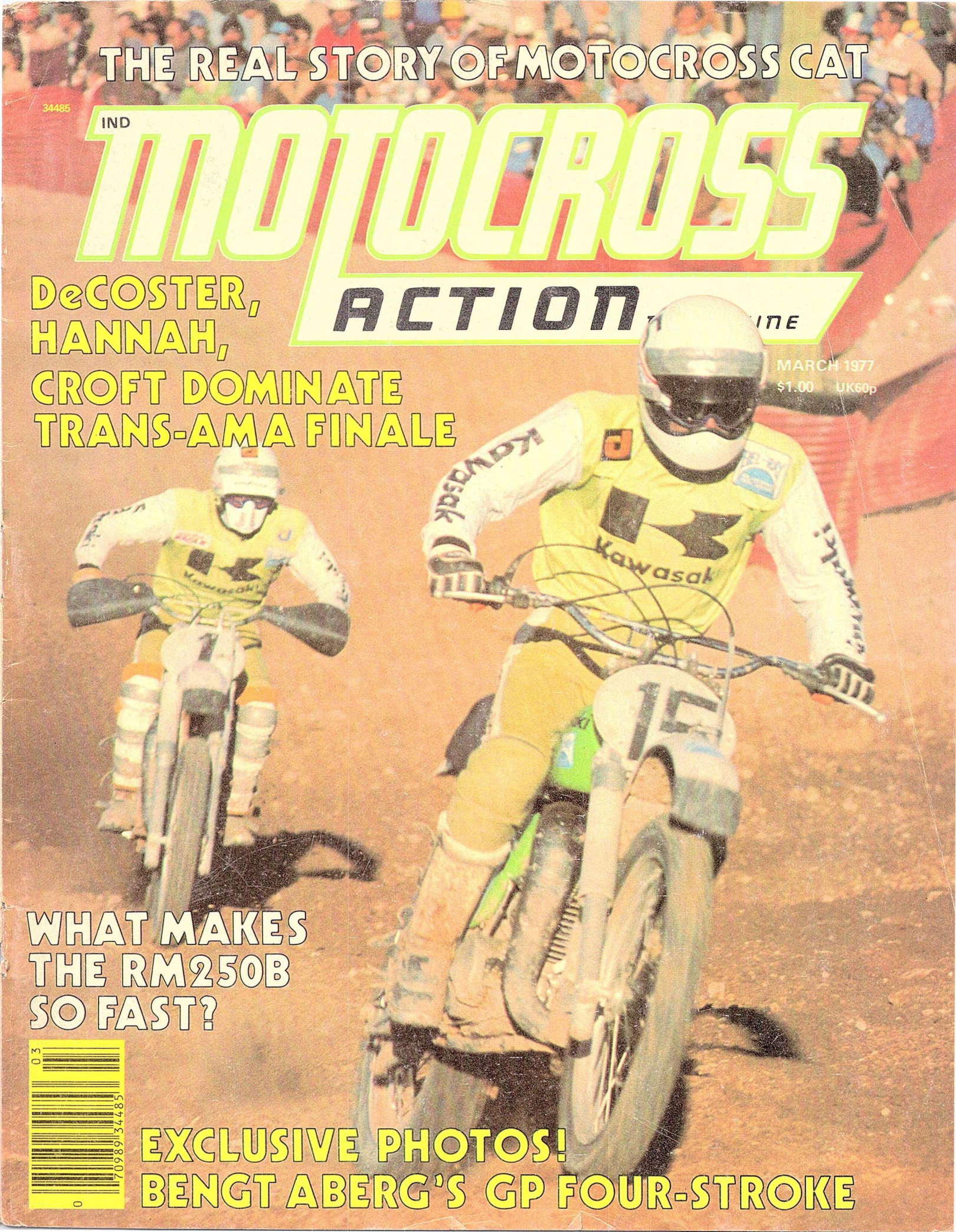
MOTOCROSS ACTION

...INE

MARCH 1977

$1.00 UK60p

DeCOSTER, HANNAH, CROFT DOMINATE TRANS-AMA FINALE



WHAT MAKES THE RM250B SO FAST?

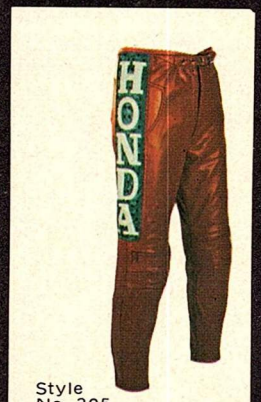
EXCLUSIVE PHOTOS! BENGT ABERG'S GP FOUR-STROKE

Trans-AMA Style or G.P. Style

MX TEAM LEATHERS

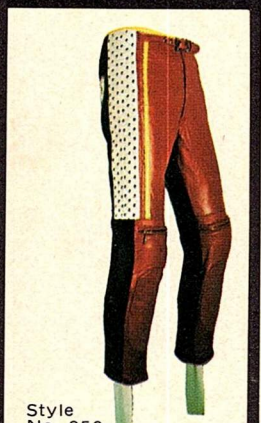
Trans-AMA style has the same fine leather construction with super-strong vented nylon calf area for extra cooling and freedom of movement. Elastic strap holds pant leg down-- keeps them tucked in. Available in all team styles.

G.P. style is all crafted of leather with snug-fitting calf that stays tucked in. Available in all team styles.



Style No. 325 G.P. Team Leathers for Honda Riders.

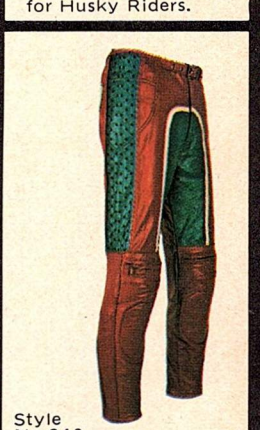
Style No. 325 G.P. Team Leathers for Suzuki Riders.



Style No. 350 Trans-AMA Leathers, lettering available.

Style No. 325 G.P. Team Leathers for Husky Riders.

Jim Pomeroy Team Leathers in G.P. (Style No. 325) or Trans-AMA (Style No. 315), lettering available.



Style No.340 G.P. Team Leathers in any color combination, lettering available.

The most popular motocross leathers with riders everywhere – Lancer's MX Team Leathers. These top quality racing leathers come in G.P. and Trans-AMA styles with the features you want – authentic factory colors and team lettering, the exclusive "Vent-Air" ventilation system, plastic knee caps in zippered pockets, triple padding and dyed-thru Canadian leather. You can even personalize them with your name or sponsor on each leg.
Lancer MX Team Leathers come in waist sizes 28 to 38. Larger sizes available on special order.
Lancer...the finest name in leathers.

Lancer Leathers

10233 No. 19th Ave., Dept. K31
Phoenix, Arizona 85021

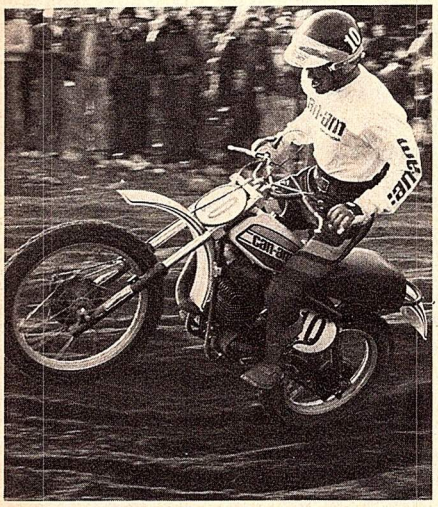
Lancer Leathers

Send 50¢ for Lancer's complete catalog of competition and touring leathers.

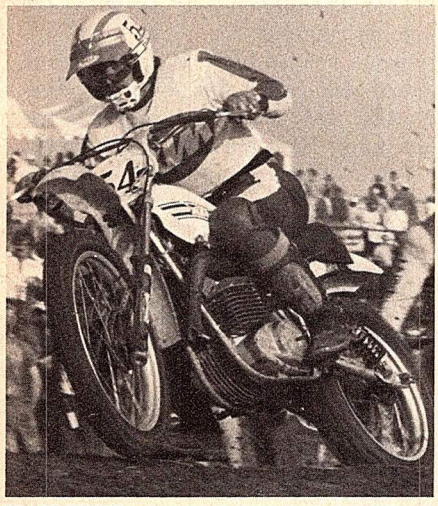
(602) 944-1783

Style No. 311 Trans-AMA Leathers personalized.

SADDLEBACK



PUYALLUP



SEARS POINT

PHOENIX

MOTOCROSS ACTION MAGAZINE

VOLUME FIVE
NUMBER THREE
MARCH 1977

bikes

20 **THE INCREDIBLE MINI-SCOOT**
Power for the peanut gallery from DG

22 **SUZUKI RM250B**
A lesson on long-stroke power

60 **ABERG'S GRAND PRIX FOUR-STROKE**
Looking at Sweden's World Championship Yama-thumper

sport

28 **THE TRANS-AMA**
Roger DeCoster wraps up his third series title

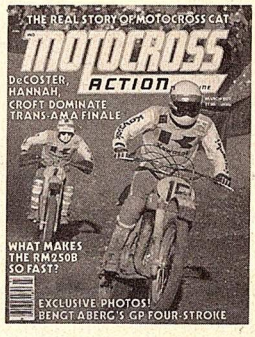
features

48 **H_2O + WFO = WOOF**
Short study on lunging into the liquid

50 **CYLINDER HEAD TECHNOLOGY**
Get your squish band right the first time

people

54 **MOTOCROSS CAT**
The real story behind racing's favorite feline


THE REAL STORY OF MOTOCROSS CAT
MOTOCROSS ACTION
DeCOSTER, HANNAH, CROFT DOMINATE TRANS-AMA FINALE
WHAT MAKES THE RM250B SO FAST?
EXCLUSIVE PHOTOS! BENGT ÅBERG'S GP FOUR-STROKE

regular stuff

4 **MAINJET**
6 **BAZ'S BOX**
8 **MAIL ENTRIES**
10 **DIRT**
14 **WINGNUT**
17 **ROY BALLOT**
18 **TRICKS FROM THE TRADE**
73 **BERMSHOT**

COVER: Team Kawasaki, led by Gary Semics and followed by Jim Weinert, charges up the hill at the Phoenix Trans-AMA into the waiting camera of Paul Boudreau.

NEXT ISSUE ON SALE MARCH 10

MOTOCROSS ACTION MAGAZINE

Editor
DICK MILLER
Associate Editor
PAUL BOUDREAU
Art Director
MAURICE GOLDMAN
Assistant Editor
CURT EVANS
Contributing Editors
PETE SZILAGYI
JIM RUSSELL
European Correspondent
DAVID MALTAIS
Staff Writer
SUZANNE DAVIDSON
Test Consultants
PETE MALY
AL BAKER
Production Editor
GEORGIA McCLAY

hi-torque publications inc

President and Publisher
WILLIAM R. GOLDEN
Vice President
JACK UNDERWOOD
Editorial Director
MIKE KERLEY
Production Director
LEW ROTH
Marketing Director
JOE BARON
Public Relations/Promotion Director
RITA GRANT MILLER
Executive Art Director
MAURICE GOLDMAN
Advertising Coordinator
KATHIE BURNS
Business Manager
S.F. GREEN
Customer Relations
NANCY PAYNE

EDITORIAL & ADVERTISING OFFICES
Hi-Torque Publications, Inc.
16200 Ventura Blvd.
Encino, California 91436 (213) 981-2317

ADVERTISING REPRESENTATIVES
THE PATTIS GROUP
INTERNATIONAL PUBLISHERS REPRESENTATIVES

LOS ANGELES:
Rick Edman
9701 Wilshire Blvd.
Beverly Hills, CA 90212
(213) 273-5300

CHICAGO:
Jack Sackley
4761 Touhy Avenue
Lincolnwood, IL 60646
(312) 679-1100

NEW YORK:
Mel Cikk
274 Madison Avenue
New York, NY 10016
(212) 679-7766

MIAMI:
Ed Hirsch
12901 S.W. 64th Court
Miami, FL 33156
(305) 665-6263

CANADA:
Sam Adelman
3285 Cavendish Blvd.
Montreal, PQ H4B2L9, Quebec
(514) 482-1454

LONDON:
Mike Angeli
Eastgate House, Onslow Rd.
Walton-on-Thames
Surrey, KT125AZ, England
(093 22) 25524

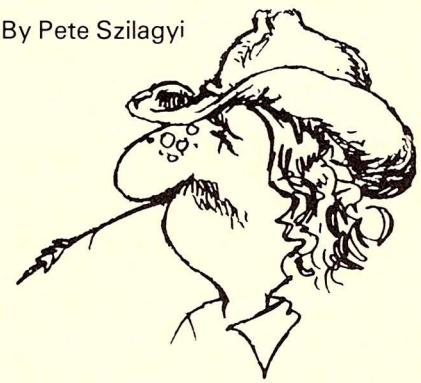
MOTOCROSS ACTION (March '77) is published monthly (semi-monthly in March and May) by Hi-Torque Publications, Inc., with editorial offices at 16200 Ventura Blvd., Encino, California 91436. Subscriptions $9.00 for 12 issues (one year). Remittance of additional $3.00 entitles subscribers to receive the Motocross Trans-AMA and Motocross Champions Specials. Foreign $2.00 per year additional for postage (Canada add $1.00 per year). Copyright © 1977 by Hi-Torque Publications, Inc. All rights reserved. Nothing in the magazine may be reprinted in whole or in part without the express permission of the publisher. Manuscripts, photographs and illustrations should be accompanied by a stamped, self-addressed envelope. The publisher does not assume responsibility for unsolicited material. Second class postage paid at Van Nuys, California 91408, and at additional mailing offices. MOTOCROSS ACTION MAGAZINE, P.O. Box 317, Encino, California 91316.

on the mainjet

by dick miller

(EDITOR'S NOTE: Dear Readers, Hi, it's me, Dick Miller. I am still very much out of commission due to last month's accident down in Baja. Being in a plaster cast from my eyelids to my toenails makes it a little difficult to be writing columns for the mag. This month I am happy to introduce guest editor Pete Szilagyi, a man who needs no introduction, who will lecture to you about his favorite subject, motorcycles.)

By Pete Szilagyi



Unless you've been around motocross for quite a while, you may not be aware that fairly radical changes have occurred in the last few years. There has been a technological revolution. Many characteristics of our bikes that we take for granted hadn't even reached the bright idea stage not long ago. In many respects, the machinery now available in dealers' showrooms make the bikes Joel Robert won his world championships on look like stones. Robert and other factory-supported riders were supplied with state-of-the-art machines, but from a performance standpoint they were clunkers compared to today's bikes, excelling only perhaps in the quality of materials used in their construction. The fact that the riders of yore did so well on bikes that might now be considered antiques doesn't make them super-heroes — everyone at the time had similar equipment — nor does it detract from the talents of contemporary riders. Lap times rise commensurate with the quality of the machinery.

If you're disgruntled with the new bike you shelled out $1500 of your hard-earned (and probably harder saved) cash for, at least appreciate the design features it possesses that factory riders and testers did many endos trying and perfecting. And try to visualize what the choices were if you were buying a new motocrosser in, say, 1970.

In that year, back when Richard M. Nixon was still gliding along merrily in the Presidency, most everyone bought CZs, Maicos, Bultacos, Huskys or one of the Japanese "pseudo-crossers." Ossas, Montesas, BSAs and a couple of other brands were also available, but they were either held in low esteem or had a limited number of dealers. Remembering, I'd have to say that CZ was the king. They were indestructible, went around corners like an Amtrak and had that gruff, eastern European mystique. But you'd best have paid up your Blue Cross when you got to the whoops.

Maicos probably handled the best, but were cursed with the "Maico breako" reputation, caused by a combination of some poor design characteristics and owners' unwillingness to undertake the prodigious maintenance required to keep the bikes running.

Though headed in the right direction, Bultaco still hadn't fully realized that flattrack and motocross weren't the same thing. The standard joke of the era was to advise prospective Bultaco purchasers to buy a six-pack of spare pistons when they picked up their bikes.

The Husqvarnas were, in a sense, over-engineered — designed and constructed methodically for the very serious rider, one who was in shape, concentrated, and didn't have to broadslide through every corner. Unfortunately, that wasn't a description of the average American rider, who found the Husky too precise and unforgiving for his taste.

And yes, the Japanese MXers. Back then they were stripped-at-the-factory enduro models, with peakier engines and stiffer fork springs. Despite the fact that they were short on suspension and long on thrills and spills, many were sold. The price was right. If the owner couldn't afford a pair of Koni replacement shocks, about the only thing he could do to make the bikes handle in a more gentlemanly manner was drain the factory oil (claimed by some to be fish oil) out of the

Continued on page 63

DISCOVER:

MOTOCROSS ACTION CAN DO IT!!!

EXCITE . . . ENTERTAIN . . . INFORM . . . TANTALIZE!

Be up front for what's really going on in the world's motocross arena. We cover the world . . . its top races, daring riders . . . action photos — in full color — fascinating features on the champions, plus page after page of candid tips and tech info. Everything you want and need to know in the ONE magazine that says it all . . .

MOTOCROSS ACTION!

SUBSCRIBE NOW!
A FULL YEAR OF MOTOCROSS ACTION FOR ONLY $9.00

MOTOCROSS ACTION MAGAZINE

P.O. Box 317
Encino, California 91316

☐ **$9.00 — 12 issues** ☐ **$17.00 — 24 issues**

Canadian subscriptions add $1.00 per year, for additional postage and handling. Other foreign subscriptions add $2.00 per year.
Make checks payable to HI-TORQUE PUBLICATIONS.

MX-5-3

NAME _____

ADDRESS _____

CITY _____

STATE _____ Zip _____

trick

SHOCKS
All Our Shocks Come Set-Up & Ready To Bolt-On!

KONI GAS W/spings	$82.00
BOGE/MUL (Rebuildables) W/springs	$51.95
BOGE W/Reeder Gas Springs	$92.00
GIRLING GAS W/springs	$71.00
KONI GP Alum body W/spings & fluid.	$100.00
BOGE/MUL LTG Complete/Gas springs	$125.00
BOGE/MUL LTG W/springs	$95.00
REEDER GAS SPRINGS	$46.95
FOX SHOX W/springs	$99.00
MARZOCCHI GAS W/springs	$94.00
S&W FREON Shocks W/springs	$77.95
ARNACO LTR-1 W/Springs	$115.00
FOX AIR SHOX Complete	$215.00
Remote Cooling Reservoir (Fox Shox)	$45.95
WORKS PERFORMANCE W/Springs	$105.00
WORKS PERFORMANCE GAS W/Springs	$140.00

CR-125 –34 MIK KIT $47.00

A must for modified bikes. Substantially improves power band on un-modified models. Comes with high-volume intake manifold, gasket, air boot and special clamps.

HEAD GEAR

Scott Goggles – $9.75 Scott Face Mask $5.95
Scott Goggles with face mask $14.95
Bell RT – $36.95
Bell Super Mag – $53.00 Bell Moto Star $62.00

YAMAHA TT500 38 MIKUNI KIT

Dyno-proven 35% to 40% Power Boost. Includes Pre-jetted 38 Mikuni, Hi-Volume K&N Air Filter, Wide Intake & Hose Clamps, Throttle, Throttle Cable & Grips.
EVERYTHING You Need – Go For It!! $75.00

SPECIALTY ITEMS

YAM TT 500 Down Pipe (BASSANI)	$50.00
YAM. TT 500 UP–Pipe (BASSANI)	$50.00
"TIGHTEN-UP" Chain Tensioners	$18.95
GOLD BELT Kidney Belt	$14.95
Quality Rubber Fork Boots/Red,Blk,Yel,Bl.	$5.95
CR-125 Rod Kit	$21.00
CR-125 520 Kit (Chain & sprockets)	$37.00
CR-125 Factory Pipe (Max H.P.)	$48.95
Skyway Freon Cell Kit	$ 9.50
Breezer Tire Tool	$ 6.95
Pro-Tec Chain Tensioner (All models)	$18.95
Jofama Shoulder Pads	$34.00
Jofama Gloves–$19.00 Tibblin Gloves	$26.95
RACE FACE	$14.95
Mototek CDI Kits (Breakerless-2 yr. Guar.)	$50.00
38 MIK KIT/TT500C YAM	$75.00
30 MIK KIT/CR125 – COMPLETE	$34.95
32 MIK KIT/CR125 – COMPLETE	$38.95
36 MIK KIT/CR250 – COMPLETE	$45.00
GAS FORK KITS–All bikes	$14.95
INTER-AM ALUM HANDLEBARS	$13.95

YAM YZC 520 Kit (Chains & Sprockets)	$38.00
RM 125/100 520 Kit (Chain & Sprockets)	$37.00
RM 125 34 Mikuni (Jetted-Bolt-On)	$38.00
RM 250 Radial Head (DG)	$61.95
RM 125 Radial Head (T&M)	$47.00
YAM TT 500 8" Travel Fork Kit (Webco)	$55.00
Oakley Grips	$ 3.75
JT Champion Boots	$87.95
Norstar or Munari Boots	$59.95
JT Unleathers	$87.95
Full Bore Boots :	$72.95
Husky 530 KIT (Chain & Sprockets)	$45.00
Koho Shoulder Pads W/Chest Prot.	$36.95
Bold Belt Kidney Belt (Just Like The Gold Belt)	$10.95

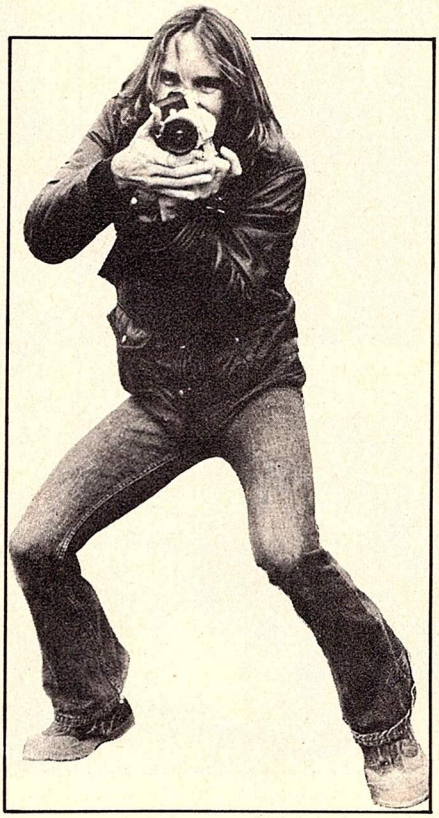
"CROSS-UP" SWING ARMS
RM Suzuki's – $125.00 YZ - 80 – $85.00
CR 125 – $125.00 XR - 75 – $85.00

SEND $2.00 FOR FULL CATALOG
COD'S REQUIRE 25% DEPOSIT
24 HOUR SERVICE FOR CASHIERS CHECK OR MONEY ORDER. All orders arrive Freight C.O.D. Calif. residents add 6% sales tax.

TRICK DISTRIBUTING
P.O. BOX 1711 – DEPT. XA
ORANGE, CA 92668
(714) 542-2537
THE COMPANY RACERS BELIEVE IN

Circle 1 on page 72

baz's box



by paul boudreau

February is no big thing among Southern Californians. The major discomfort is occasionally having to wear socks when the temperature plummets to around 55 or 60 on a bad day, but most of the locals can't tell the difference between summer and winter and the racing goes on year-round.

But that's not how things are in Minnesota, or North Dakota, or upstate New York, Wisconsin or New Hampshire. To a motocrosser in these northern parts, February is the closest society comes to extinction in its yearly cycle of seasons. Yes, February may kill all the plants, shut down schools and factories and close all the freeways, but it won't keep a motocrosser from his ride. Like a drug addict, the hardened racer will face anything, even the gloom of mid-February, to satisfy his craving, his lust, to ride that motorcycle.

With the temperature bottomed out like the forks on an old DT-1, the motocrosser steps from the protective warmth of his house into Nature's annual try at rubbing out civilization. The first thing that happens is his snots freeze. Have you ever had your snots freeze? It's like growing branches inside your nose. Now he has to breathe through his mouth which of course exposes his teeth, heretofore warm and toasty at 98.6 degrees, to the ten-below temperature of the atmosphere. Snapping like ice cubes, each tooth feels like it is in the jaws of a vise-grip and it is generally agreed that breathing through one's ears would be more comfortable if it were possible.

After wrapping a heavy scarf around his mouth to keep his teeth from exploding, the winter racer has to next contend with his vehicle. The poor creature has been left sitting outside all night and the chill has permeated every part to its core. The first thing our intrepid rider finds is that he can't get his key into the lock because the lock is frozen solid. The old trick is to heat up the key with a match until it's hot enough to melt its way into the lock, but did you ever try to light a match wearing arctic ski gloves on a windy morning? And don't take those gloves off or you'll become part of anything you touch 'til the Spring Thaw.

Opening the door after the lock is free is another problem. He gives it a tug and nothing happens. He gives it a harder tug and still nothing happens. Bracing his foot up against the side of the truck, he gives it a *yank*, and the door finally tears open, ripping out all the weather-stripping that has frozen itself to the door frame. Now his van will be as drafty as a treehouse for the rest of the winter.

Inside he gets the feeling he's seated in a tomb. February erases all forms of life and a night in the driveway causes even the molecular activity of the van to cease. Starting the engine takes a strong battery, a practiced hand and sometimes the help of a few disembodied spirits. Consider the poor engine dragging its parts through oil chilled to the consistency of Vaseline, trying to get a fire going in combustion chambers so cold that the sparks freeze solid before they can light the fuel, and you'll realize why auto stores do such a brisk business this time of the year selling jumper cables. He gives it a try. It turns over once, groans, turns over again, then one more time before the battery he got on sale last year for $9.98 signs off with an anemic click from the solenoid.

Rummaging around in a special winter driving milk crate kept for such purposes, he produces the two things necessary for winter starts: jumper cables and a can of spray nitro. Spray nitro is hairy stuff and an overdose will blow your spark plugs right through the hood, but our hero is a veteran of such devices and empties the whole can into the air cleaner.

Finally, with smoke rising from the smoldering plastic insulation and blue sparks flashing from the clamps as they weld themselves to the battery terminals, two cylinders start firing just enough to keep the engine turning while the rest of the assembly comes to life. This is the first victory of the racer's day. He got his van started.

After warming it up for about a half-hour so that it'll stay running at half-throttle, our subject pushes in the clutch and moves the shift lever into first gear. Working a transmission at this temperature is like stirring a jar of peanut butter with a wooden spoon. Letting the clutch out, he finds to his surprise that his foot has come up empty-handed because the clutch pedal is frozen to the floor. So, being a clever motocrosser, he duct-tapes his foot to the pedal like on a ten-speed and controls its function enough to get the old van under way.

Once on the road he finds out two things. One, the van's suspension is frozen solid and he's got all the ride of a Radio Flyer; and two, it doesn't matter much because he can't see a thing anyway on account of the frost that's built up an inch thick on his windshield.

There's more to this story, about how he'll try to get the frost off with hot coffee and how that causes his windshield to turn into a glass sculpture of a spider web. And once he gets to the track how he finds out that his bike is in the same condition as his van was and that leather turns into cardboard and duct-tape gets as brittle as bacon and won't stick to anything but itself. But I get cold just thinking about it and if I liked being cold, I never would've moved to Southern California. You Northern people know what it's all about anyway and could probably make up better stories than I can, so I'll just leave you to your February and I'll go surfing in mine.

BULTACO * ROKON * HODAK * CZ
MONTESA * DKW * MONARK * SACHS
PARTS * ACCESSORIES
Laidig's 364 S. Arlington Street
Akron, Ohio 44306 (216) 253-7455
Send $1.00 for Our Trick Rokon Accessories Catalogue U.R.S. Daily Mail Order Only
Circle 2 on page 72

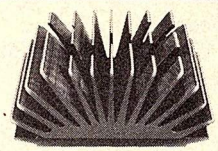
Looks Like A Winner.
Performs Like A Winner.
IS A WINNER!

THE EXCLUSIVE NEW
7075 Solid Aluminum
TRANS-AM BARS BY "BarFly"™

Just introduced, the new 7075 bars by BarFly look like winners with their six-color range of non-chip, peel proof anodized colors keyed to popular bikes. And they perform like winners with the light weight feel and fatigue-absorbing flex of their aircraft aluminum construction. Now, it's official. THEY ARE WINNERS. Adopted by several top competitors, they've already started to compile a record of firsts and seconds in major races. Check out the new 7075. Pick your color and style from the 11 bends and sizes, and ride with the hottest new winner in custom bars.

OTHER BARFLY BARS You may prefer the extra fatigue-free flexing of the tubular aluminum BarFly Motocross Bars. Same six-color range, same 11 bends and sizes, same aircraft aluminum. BarFly also manufactures superior chromed steel Touring Bars in the five most popular styles.

GENEX TOOL & DIE, INC.
4049 Simon Rd., Youngstown, Ohio 44512
Write For Literature, Complete Details



Cool it with a FAN-DANCER
A totally new concept in aluminum radial finned heads.
Ask for literature.
Circle 3 on page 72

mail entries

SANO SUPERMARKET SUZUKI

Dear MXA,

I'm working as a box boy to save up for a Suzuki RM125B. Naturally, I was really stoked when I saw that Miller Mano shopping cart in your big Christmas Tricks of the Trade. Dave Miller sure builds some weird machines!

Ken Caswell
Santa Ana, California

Dave Miller

TRANS-AM COVER

Dear MXA,

In the Dirt section of your December issue you raised the question of how a 250 Can-Am got in the picture with Gaylon Mosier's Open class Maico. If Can-Am wasn't sponsoring an Open class bike at the time, perhaps someone was running a pair of forks with the legs painted black and a Can-Am fender.

Dave Percival
Eldon, Missouri

(*And maybe the engine said Bombardier on it too. — Ed.*)

Dear MXA,

Did Gaylon Mosier ride the Support class that day?

Mark Lewis
Sun Valley, Idaho

Dear MXA,

I've been up to your tricks for a while now. First it was that shot in the Yamaha YZ400 test where the rider is completely crossed way up in the air. Now it's the cover of your Trans-Am special. Since I know all about photography, it's easy to tell that you are creating special effects by superimposing one photo onto the background of another. The background for the shot of Mosier whipping his Maico was taken at a different section of the track. Unfortunately, you blew it, because when you snapped the picture, obviously during a 250 Support moto, a Can-Am rider barely snuck into the photo.

Ben Sloane
Lowville, New York

Dear MXA,

Even though he only had a 250, Jimmy Ellis wanted to race against the Europeans, so they let him ride it in the Open class. Is this right?

Tommy Marinello
Bellingham, Washington

Dear MXA,

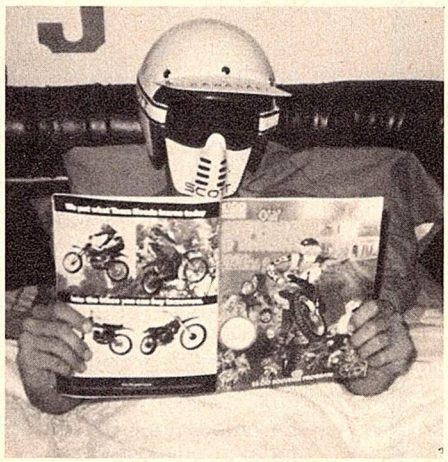
Is that someone else wearing Gaylon Mosier's jersey and leathers?

Vic Tompkins
Jenkins, Kentucky

Dear MXA,

On your Trans-Am special cover, the reason the Can-Am front wheel is in the picture is because the photo was probably taken during practice. Simple, huh?

Bob McMillian
Stone Mountain, Georgia



WHOOP-HUMPIN'

Dear MXA,

Ever since my boyfriend went to the Oly Superbowl of Motocross he's been practicing his whoop-de-dos on the waterbed.

Seasick
Torrance, California

(*Why, does he get better holeshots? — Ed.*)

OFFICIALLY

Dear MXA,

How come you keep saying that Heikki Mikkola is the first rider to earn World Championships in two different displacement classes. Have you glue heads already forgotten about Rolf Tibblin?

Matt Reynolds
Keene, New Hampshire

(*Let's set things straight. Rolf was the 250cc "Champion of Europe" in 1959 before the 250cc class was granted World Championship status. He then went on to become the 500cc World Champion in both 1966 and 1967. Heikki, on the other hand, was 500cc World Champion in 1974. Now he's the 1976 250cc World Champion, making him the first rider to* officially *hold World Championship titles in both displacement classes. Picky-picky, but at least we're not wrong.*)

VAT, NO PORTA CAN?

Dear MXA,

Being an avid reader of your fine magazine, I thought you might be interested in this trick picture taken at the Dallas, Texas, Trans-AMA. Egad!!! What is Adolf doing on the fence?

Bobby Davis
Bethany, Oklahoma

THE BIONIC WOMAN

Dear MXA,

The story on Marty Smith's girlfriend in your December issue was dumb.

Chris Rogers
San Pedro, California

Dear MXA,

More articles on racers' girlfriends. The fast guys get all the foxies. Why not

a centerfold of Danny LaPorte's girlfriend?

Alvin Levine
Big Lake, Texas

Dear MOTOCROSS ACTION,

Nancy Sauer has got to be the luckiest girl in the world. I broke out into tears after reading the story on her and Marty. Just knowing that someone else is playing with his bionics drives me mad. You must have broken the hearts of a thousand pit tootsies with that one. Don't worry, we still love ya, Marty!

Debbie Myers
San Luis Obispo, California

Dear MXA,

I think Laurie DeCoster blows her off.

Bill Churchill
El Cajon, SoCal

Dear MXA,

Hey, I thought the title of your magazine was MOTOCROSS ACTION. The story on Nancy Sauer was good, but let's see a little action! Hubba-hubba!!!

Keith Butler
W. Frankfort, Illinois

Dear MXA,

No wonder he likes her. If I had two trucks I'd want to get to know the girl at the gas station too.

Warren Lubell
Bismarck, North Dakota

Dar MXA,

I'm not complaining or anything, but I was just wondering why you guys write so much about Marty Smith. He isn't all that great.

Danny Casson
Simi Valley, California

(*Yeah, but he's got a foxy girlfriend. — Ass. Ed.*)

Dear MXA,

Everyone knows that Pierre Kars-

Continued on page 68

Learn at Home...Be a
MOTORCYCLE MECHANIC...

Now's the time to "grab a piece of the action" in America's fast-growing motorcycle industry. Big demand for skilled mechanics. Earn steady pay—or start your own business. We show you how! No need to quit school or job. Learn at home in spare time. *RUSH COUPON FOR FREE INFORMATION*

SPECIAL CYCLE TOOLS & TEST INTRUMENTS INCLUDED...

Careers by Home Study
NORTH AMERICAN SCHOOL OF MOTORCYCLE REPAIR
4500 Campus Dr., Dept. FE0227 Newport Beach, CA 92663
Rush me **FREE Information** and full color brochure. **without obligation.**
NAME _____ AGE ____
ADDRESS _____
CITY _____ STATE _____ ZIP _____

Circle 4 on page 72

KICK IN THE BALL... AND SCORE WITH AMERICA'S MOST COLORFUL EXCITING AND INFORMATIVE SOCCER MAGAZINE.

It's all here . . . Big game coverage, a look at the pros, amateur and youth soccer competition matches. Personality interviews. Investigative reports. All the skills, pageantry and action of soccer, and much, much more.

Don't kick it around . . . detach this coupon and subscribe TODAY!

SOCCER CORNER

SUBSCRIBE NOW!
Eight (8) sensational issues for only $6.50.

Soccer Corner Magazine
P.O. Box 317, Encino, California 91316
8 issues — $6.50 MX-5-3
Canadian sbuscriptions add $1.00 for additional postage & handling, other foreign add $2.
A check or money order must be included.
Name _____
Address _____
City _____
State _____ Zip _____

GOLD BELT GET-ACQUAINTED SPECIAL: nearly $21 value, only $16.95!

Get with the winners and get a bargain, too! Buy an Original Gold Belt body bracer, using the coupon below, and for no additional charge, we'll send you a genuine, patented Spoiler helmet visor. Here's a chance to enjoy the same support the Champions have been getting, and to experience the full-shading benefits of a long visor without annoying high-speed helmet lift. This is our way of introducing you to The Gold Belt Line of fine products for your enjoyment.

Check this list of happy Gold Belt users:
Roger DeCoster
Malcolm Smith
Jim Weinert
Tony DeStefano
...ent Howerton
Marty Smith
Rich Eierstedt
Billy Grossi
Jim Ellis
Gary Semics
Mike Runyard
Bobby Ferro
Carl Cranke
Mike Hannon
Bill Uhl

use coupon

SIMON SAYS YES
P.O. BOX 69129
LOS ANGELES, CA 90069

Enclosed is $16.95 for The Gold Belt (fits 27" to 40" waists) and FREE Spoiler visor ($3.95 value) plus 50¢ for shipping costs. Delivery will take 2 to 4 weeks.

THE GOLD BELT LINE®

Name _____
Address _____
City _____ State & ZIP _____
Make checks payable to: A. Simon
Calif. residents add 6% sales tax

Circle 5 on page 72

dirt

by holbert holquist

Heikki Mikkola

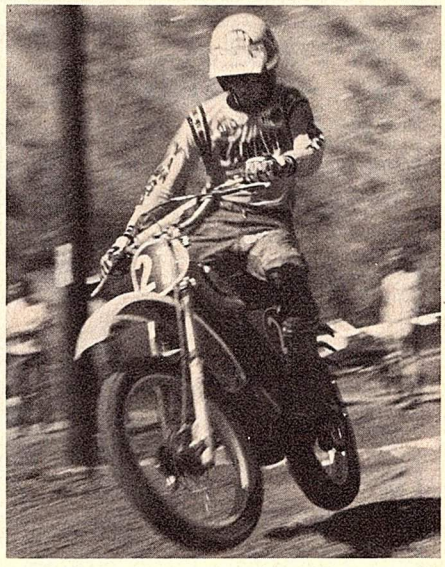
EUROPEANS, AMERICANS PLAY YEARLY MUSICAL MOTORCYCLES

It's that time of the year again. 1976 factory agreements and rider contracts have expired and many pro racers and factory rides are up for grabs. The big news comes from the American Honda racing team, which has added two new members to the team and dropped one. Both Jim Pomeroy and Brad Lackey have signed contracts with the Japanese outfit after long associations with European factories campaigning the Grand Prix circuit. Lackey, who lives in Belgium and spent three years with Husqvarna competing in the 500cc World Championships, will continue his bid for the world title on board Honda's RC500MF prototype. Pomeroy, who has raced Bultacos throughout his professional career including the last four years in 250cc world class competition, will contest the 1977 AMA 250cc National Championship on the Honda Type 2. Not content with the support he received from the Spanish factory in 1976 or his exposure in the American press, Pomeroy hopes to do better racing for Honda in this country.

Meanwhile, America's highest paid motocross racer, Pierre Karsmakers, split with Honda after a good European season but a difficult Trans-AMA series and will probably return to his original American employer, Yamaha International, although there is some speculation that he will join a European Yamaha Grand Prix effort taking shape in Sweden.

That Yamaha development will be mighty heavy indeed, as two former World Champions have made agreements to ride Yamahas in the 500cc World Championship. Bengt Aberg of Sweden will ride the 500cc Yamaha four-stroke featured in this issue for Hallman-Eneqvist, the Swedish Yamaha importer. Current World Champion in the 250cc class, Heikki Mikkola of Finland, will ride a 400cc Yamaha two-stroke in a special monoshock chassis for Arwidson & Co. A.B. of Finland and Yamaha Motor N.V. of Amsterdam, Holland, both Yamaha importers. A possible addition to this combined Yamaha effort is American Yamaha mechanic Bill Buchka. Buchka prepared the Yamahas used by Pierre Karsmakers and Jim Weinert to win AMA 500cc National Championships in 1974 and 1975, and the fantastic water-cooled 125cc prototype Yamaha that carried Bob Hannah to the AMA National Championship this past year. With a string of championships like that behind him, Buchka hopes to make it four with a world title in 1977.

In other news from Yamaha, the big factory is going to try it again this year with another untried rookie. This time it's 16-year-old Broc Glover from El Cajon, California. Glover has been hot in Southern California pro races riding for



Broc Glover

DG Performance, and finished fifth in the 125 National Championship riding a DG Yamaha YZ125. Glover will again campaign the 125 Nationals, only this time on a factory OW water-cooled prototype.

Steve Stackable will return to Maico after a single season with Suzuki. Scoring third place in both National Championship series, the Texan missed most of the Trans-AMA series due to a knee injury. He'll join Maico anchorman Gaylon Mosier and the two-man team will receive full sponsorship from the German factory.

Harley-Davidson is back this year with Rex Staten and a new member of the team, Marty Tripes. It will be interesting to see Tripes, who I consider one of the most talented American riders in the business, back in action with the H-D development program.

Jimmy Ellis has signed a two-year contract with Can-Am and will be joined on the Canadian factory team by Washingtonian Buck Murphy.

Team Suzuki will add 17-year-old Jeff Jennings to fill the spot vacated by Stackable. Jennings was sponsored locally by Suzuki in California and saw limited action in the Support class of the Trans-AMA, notching a moto victory at his home track, Saddleback Park. Jennings will join Danny LaPorte, Billy Grossi and Tony DiStefano on a very strong Suzuki team.

In addition to Lackey and Pomeroy, Honda will retain veterans Marty Smith, Rich Eierstedt and Tommy Croft.

Kenny Zahrt has returned to Bultaco to join Wayne Boyer in his second year on the Spanish factory team. Hopefully there will be new machinery to greet the young twosome.

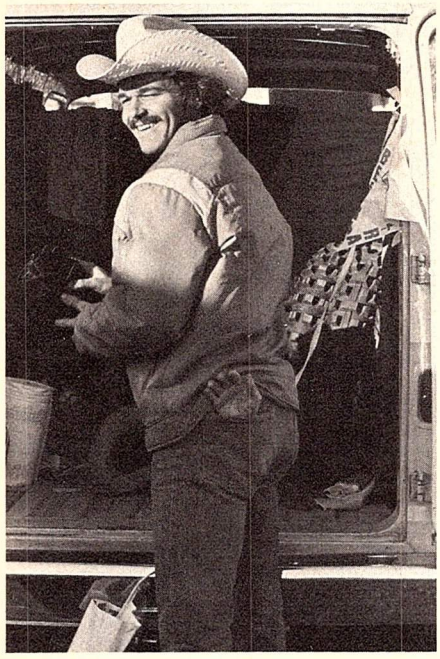
Team Kawasaki, who also had a shot at Lackey and Pomeroy, will hang on to their one-two punch of Gary Semics and Jim Weinert. Terry Clark, who rode under a partial Kawasaki sponsorship in 1976, will return this year with the same deal.

Kent Howerton will carry the National Number One plate in the 500cc class on his regular Husqvarna and will possibly be joined by 1976 privateer Chuck Sun. Sun is one of the most talented of the

Chuck Sun.

pack of young privateers who rode the National circuit and Trans-AMA Support class.

California local Marty Moats will ride the new GP Ossa in 250 National



Marty Moats

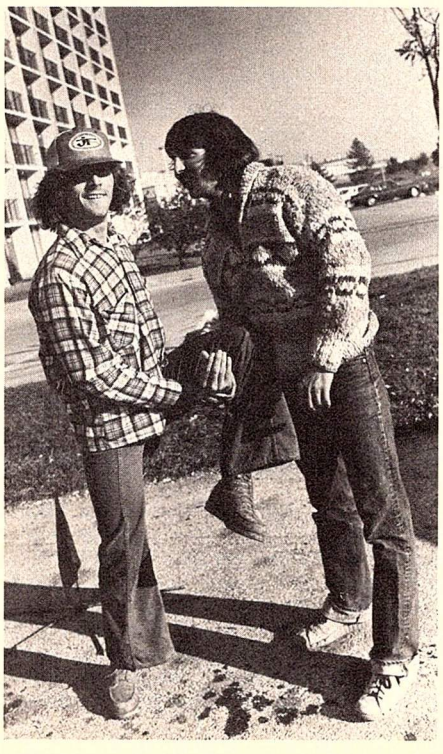
competition while East Coaster Mike Kessler will handle the Montesa. Gary Jones will once again spearhead the AM-MEX development program on a Jones-Islo. That leaves privateers Pat Richter, John Savitski, Gary Chaplin, Mike Runyard and Steve Wise still looking for rides.

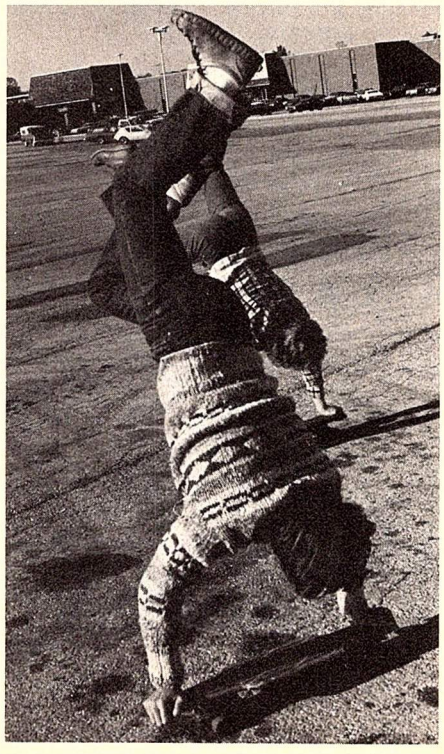
"D" STANDS FOR "DEE-JECTED": National Champion Tony DiStefano is more than a little dejected after failing to equal his 1975 performance in the 1976 Trans-AMA. Finishing 11th overall this year didn't come close to his third and first American last year, but The D is looking forward to the 1977 season and another shot at the Trans-AMA.

WHIPS: The unofficial Holbert Holquist Privateer of the Year award this year goes to Calvin Kalicki, a self-sponsored Husqvarna rider who campaigned every race of the Trans-AMA series by himself. Traveling alone in a very funky window van, Cal kept smiling and kept his Husky running with little outside help 'til his tired machine finally expired at the American Motocross Finals in Anaheim, California, the last race of the season. Cal is the kind of guy who brightens the day of every person he comes in contact with, always smiling and never getting down no matter what. As far as I'm concerned, that is the kind of stuff that makes a professional racer and this guy from Medina, Ohio, is the toughest stuff I've seen.

ONE DAY IN THE MOTEL PARKING LOT

All is not work for the riders of the Trans-AMA. Here in the parking lot of the Howard Johnson's in St. Charles, Missouri, which is near St. Peters not far from St. Louis, two very *un*saintly characters, Gaylon Mosier and Brad Lackey, greet each other. Gaylon pulls an old Harpo Marx trick on Brad and the two skateboard off to adventure in a nearby shopping center. Oh, the complex lives these racers lead.





See next page

dirt

Continued

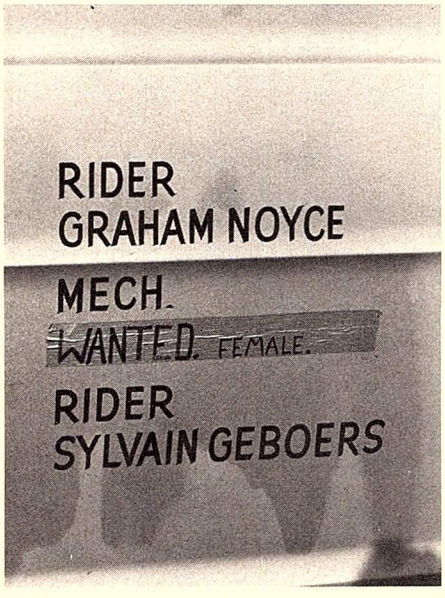
NO MORE HEAVY CHEVYS

It seems that auto manufacturers have finally caught on to the idea that less weight means better handling, and, more importantly to them, better gas mileage. By shaving off extra bulk, ingenious General Motors mechanics have managed to produce a new line of '77 mid-sizers that weigh on the average 700 pounds less than last year's models. If the weight reduction seems radical now, wait'll they discover titanium!

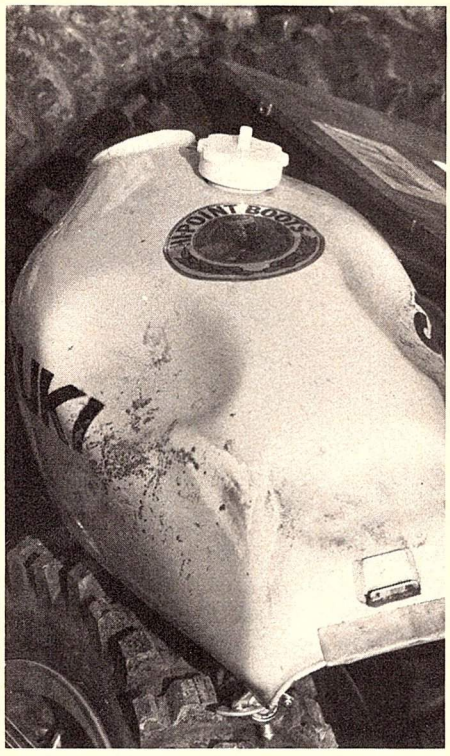
* * *

MAICO OFFERS FLORIDA CONTINGENCY $$

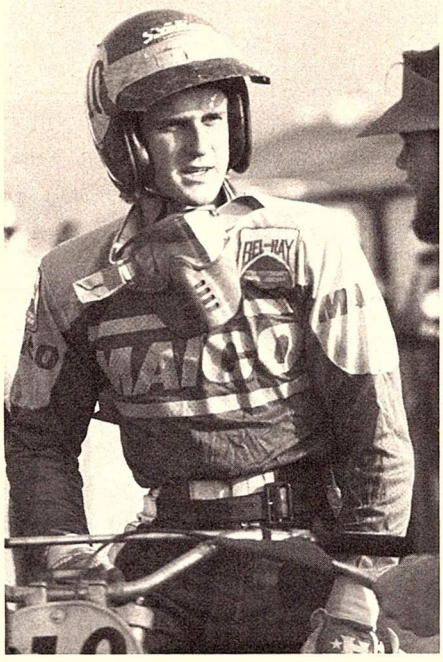
Maico Motorcycles, Inc., of Lewistown, Pennsylvania, is offering $8500 in contingency money to Maico riders in the four-race Winter-AMA series. The loot will be divided between the pros and the amateurs with $6000 in cash going to the pros and $2500 in merchandise going to the non-pros. $250 will go to the Maico rider winning any of the events with $1000 going to the Maico rider who wins overall. Prizes will be awarded in all classes down to third place per event and an additional award will go to the overall series winner of each class, if he rides a Maico. Jackets, pants, boots and other riding gear will go to the amateur winners. For further information, write them or call (717) 242-0356.



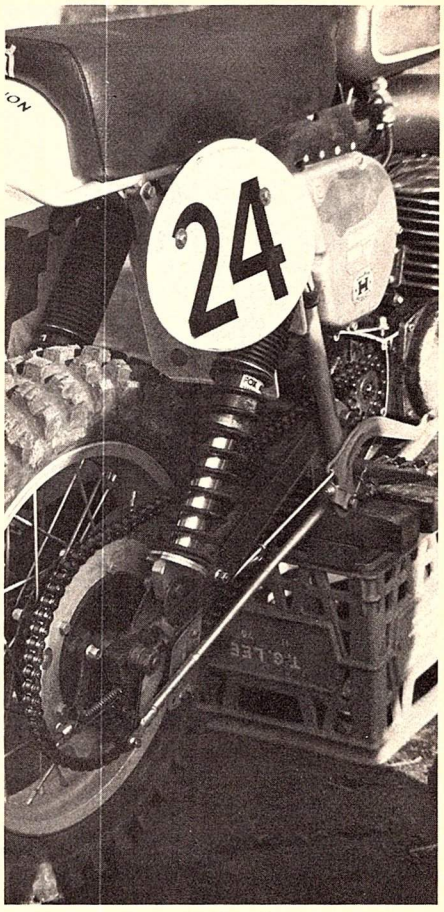
EARN WHILE YOU LEARN: Team Maico is looking for a certain type of mechanic. Do you qualify?



THAT'S WHAT IT TAKES: Ever wonder why Roger DeCoster is so good? Some people will tell you it's the size and consistency of a certain part peculiar to the male anatomy that makes him go fast. We don't know for sure, but this fuel tank taken off R.D.'s Suzuki after he won the first moto of the Sears Point Trans-AMA may serve as some indication.



NOYCE FINISHES STRONG: The long-anticipated flash by British super-teenager Graham Noyce finally happened at the last two Trans-AMAs. After finishing second behind Roger DeCoster at the Sears Point event, Noyce had second in the bag at Phoenix when his rear wheel came apart three laps from the finish. Noyce will return to England to train for the 1977 Grand Prix season.



IMPROVED FOX SHOX: The Moto-X Fox has taken some of the radical rebound out of these prototype air shocks with the addition of an external spring and adjustments in the internal air pressure. The springs showed up at the last three Trans-AMA events on the Team Husqvarna bikes.

DOES THIS KID LOOK FAMILIAR? Maybe if you saw him ride, you'd recognize him. It's Nigel Adams DeCoster, infant bambino of the R.D. himself, cradled in the tender loving arms of photographer Patti Trotter at the Saddleback Trans-AMA. Ain't he cute?

Circle 6 on page 72

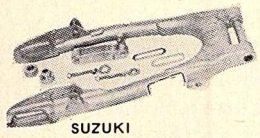
WINNING STARTS WITH PDI

Here are just a few of our ALL NEW products for your new Mini–

"Go With a Winner . . . Go With PDI."

SEND $1.00 FOR PDI'S NEW PARTS AND ACCESSORIES CATALOG.

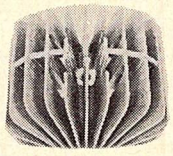
NEW PDI SWING ARMS



SUZUKI

YZ-80 C & D	$105.00
YZ-100	109.00
RM-80	105.00
RM-100	109.00

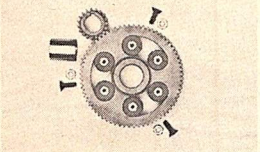
RADIAL HEADS



YZ-80C Radial Head

CR-100	$49.95
YZ-80 C&D	49.95
RM-80	49.95
RM-100	49.95

STRAIGHT CUT GEAR SETS



YZ - straight cut gear sets. A must for the all-out racer. Increases horsepower on the Dyno by 14%.

YZ-80 C&D	$114.95
YZ-100	114.95
YZ-125	114.95

MX FORK BOOTS

Specify Red, Yellow or Black

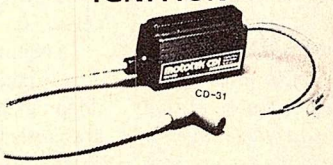
XR-75, YZ-80 & Most Mini Bikes
Most 100 & 125's **$7.95**

CLUTCH SPRINGS

Heavy Duty Clutch Springs

YZ-80 C	5.95
YZ-125	5.95
CR-125	5.95
RM-80	5.95
RM-100	5.95
RM-125	5.95

MOTOTEK HI-REV IGNITION



Replacement for the top coil allows for increased revs and more power throughout entire powerband. **$54.95**

FITS MODELS: Honda CR-125 (all years), Honda TM-100, TM-125, 250, 400, CR-100, CR-125, 250 & 370. Kawasaki KX-125 9 250. YZ Yamaha & RM Suzuki.

FRONT FORK BRACE

NEW

RETAIL $23.95

Introducing the **NEW** PDI Works style **FRONT FORK BRACE** for your CR.

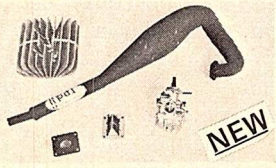
This new brace eliminates front fork flex and also stops twisting of front forks and tripple clamps. Improves steering. Bolts on in minutes to the tripple clamps. A must for motocross or desert riding.

Call or write for information on our PRO or INTERMEDIATE PACKAGE RACERS

NEW from PDI — Leading Axel Mini Baytor Forks for your YZ or RM-80. Bolts on in minutes, 6½" Travel comes complete with tripple clamps. $179.95 comp.

BOLT ON ENGINE KITS

Introducing the ALL NEW PDI **"BOLT ON ENGINE KITS"** for your Mini.



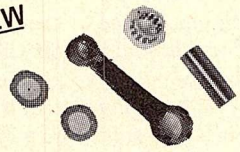
NEW

YZ-80 C&D	$139.95
YZ-100 C&D	154.95
RM-80	125.95
RM-100	154.95

The ultimate in Bolt on Kits for your mini. This kit consists of our **NEW RADIAL HEAD** for maximum cooling. Also a specially jetted Mikuni carb. intake manifold. Large reed assembly with fiber reeds and our ALL NEW Mini Pro Pipe with the exclusive Expanding Head Pipe for maximum RPM's.

(RM-80: intake manifold & reed assembly not included)

NEW

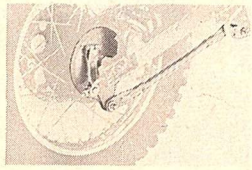


Introducing the **ALL NEW PDI** CR 125 Rod Kit. Comes complete with rod, pin, bearing and thrust washers. **$29.95**

PDI PRO PORTING AVAILABLE

Call or Write For Information

FLOATING REAR BRAKE

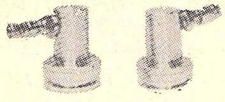


Full floating Rear Brake for your YZ-80 C or D.

Price **$47.95**

* Core charge $14.00
Refundable

Air-Oil Suspension FORK CONVERSION



CALL OR WRITE FOR INFORMATION

PDI PIPES

Introducing the **ALL NEW PDI** Pro Line of MX Hi Performance Pipes for your Mini.

NEW

ALL NEW EXCLUSIVE Pro **EXPANDING HEAD PIPE** (on some models)

MR-50 Hi Pipe	$42.95
XR-75 Down Pipe	34.95
XR-75-'76 Down Pipe	34.95
YZ-80 Hi Pipe	49.95
YZ-100 Snake Pipe	59.95
RM-80 Hi Pipe	49.95
RM-100 Hi Pipe	69.95

Our new PDI pipes will give you increased power all through the power band and will increase the top end RPM's. With a wider power band it will make your Honda easier to ride.

520 CHAIN & SPROCKET KIT

HONDA		YAMAHA	
CR 125	39.95	YZC	42.95
CR 125 M2	39.95	RM125A	39.95

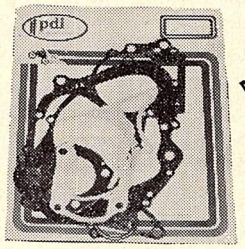
SUZUKI
RM 125/100 39.95
Sprockets Only 25.95 Chain Only 17.95

NEW 428 CHAIN KIT

YZ-80 C&D **$34.95**

Introducing PDI New Line of

HI PERFORMANCE GASKET SETS



NEW

	Complete Set	Top End Kit
HONDA		
CR 125	5.95	2.75
CR 125 M2	5.95	2.75
CR 250	6.95	2.95
CR 250 M2	6.95	2.95
SUZUKI		
RM 125A	5.95	2.70
Suzuki RM 125B	5.95	2.70
Suzuki RM 250A		
Suzuki RM 370 A & B		
YAMAHA		
YZ 80		
YZ 125C	4.65	2.75
YZ 125X	4.65	2.75

pdi PERFORMANCE DISTRIBUTING, INC.
1059 CLIFF RD. • BURNSVILLE, MN 55337

TO ORDER CALL
612-890-5541

DEALER INQUIRIES INVITED

Minimum order $5.00

wing nut

by al baker

These letters are real and so are the answers and opinions expressed by Baker, which incidentally are subject to change at any time or in the near future. (ed.)

PIERRE'S OLD YAMAHA

I have a unique problem maybe you can help me with. Last year I bought the original bike that Pierre Karsmakers rode in the late '74 Trans-AMA. This bike is a 250 monoshock with at least ten inches of wheel travel. The problem is this: The bike sits so high off the ground that I have trouble going around berms without the front end plowing into the ground. Unfortunately the front end travel does not equal the ten-plus inches that the rear end is getting.

Maybe a fork kit will help. Please advise. Also, the monoshock's parts seem to be quite a bit different from the parts that the local Yamaha shop carries, so how can I match them?

Bob Perkett
Melbourne, Florida

While I was working in the Kawasaki Racing Department three or four years ago, I was amazed at the racing machines sent over from the factory. Even though 250 KXs would show up, no two bikes were the same. Sometimes even a Japanese guy would come with the bike. He couldn't speak English of course, so we had a little trouble in the language department. These guys are engineers, technicians and builders of these race bikes. So you can bet that any race bike Pierre Karsmakers rode isn't going to be a production motorcycle. I'm sure your bike is quite different from any Yamaha in your area. Most parts, including the chassis, are handmade and will have to be replaced in that manner, unless a production part can be adapted. My suggestion for equalizing your front fork travel to your rear shock travel would be to order a complete set of 1977½ YZ250 forks. Yamaha is offering ten inches of fork travel in that model. New forks should upgrade the value and performance of your bike. Seeing you forgot the Japanese guy that came along with Pierre's bike, you may be able to acquire a few trick monoshock parts from Team Yamaha's racing manager, "Big Ed" Shiedler, Yamaha International, 6600 Orangethorpe, Buena Park, California 90620.

ENGINEERING STUDENT

I am writing because of the serious answer that you gave to Scott Payden in the September 1976 issue.

I am a student at Texas Tech University and I am majoring in Mechanical Engineering Technology. I love motocross, but I'm not fast enough to be a pro. So, I want to get into the design and development of motocross machinery. I am wondering if you could advise me on getting into this field of motocross. Are there many companies in the United States that need mechanical engineering technologists? Could you name a few? And perhaps you can tell me where I might find a summer job related to this field, preferably close to or in Texas.

Frank Ford
Lubbock, Texas

I have a mechanical engineering student working for me. I believe every firm engaged in manufacturing anything needs a trained engineer — educated, experienced and enthusiastic about the product they're producing. I would feel a bit lost without the help and advice of this man by my side. My suggestion would be for you to present yourself, through a resume, to any or all companies you see exposed in the field you're so interested in. Don't hesitate to contact the largest companies first — Honda, Yamaha, Kawasaki, etc. Address your letters to the Engineering, Testing, Research, Racing, Warranty or whatever departments. Companies hire people who show effort and enthusiasm.

HAPPY MAICO CUSTOMER

Just finished reading your column in the December, 1976, issue of MXA, which is the reason for this letter.

Everybody bitches and moans about their dealer and bike company, like Scott Payden and his Suzuki shock story, but nobody writes when their dealer and distributor does something good for them.

I recently had problems with my bike — a Maico. Everybody knows that Maico doesn't have a warranty. Well, my transmission broke, no first gear. I went to my dealer and he suggested that I write to Maico. I wrote a letter asking for assistance, not screaming and yelling, and to my surprise Maico agreed to fix it. So I would like to publicly acknowledge my thanks to a company, "Maico East," and my dealer, Santick Cycles, Pittston, Pennsylvania, for treating me fairly and in a professional manner.

Gregory J. Pavlik
Duryea, Pennsylvania

I appreciate your letter, as I'm in the position of a parts supplier. Customers like you don't come along every day. If a consumer would use a little common sense before he made his complaints, many discrepancies would never come up. There is a limit to what's right and what's wrong in the back of everyone's mind, and it works the same way with most warranty problems. I'm sure your gear problem was justly corrected because there may have been a history of problems in this area, not because the people at Maico East are a bunch of nice guys.

NEW BULTACO SHOCKS

I'm having a hard time deciding which 250 motocrosser to purchase. I have narrowed the field to the RM or the Bultaco. But I feel that faster and better handling 1977 models will make my 1976 or whatever obsolete. Can you help me here?

Also, I've seen your ad for the RM that you put out, but the price turns me off there. I feel that with a good set of shocks the Bultaco would be my cup of tea. So, can you tell me if S&W makes a Freon cell to fit the Bul, or do you have a better suggestion?

Mark Trepagnier
New Sarpy, Louisiana

It sounds to me like you've had Bultaco on your mind for a while. The new '77 250 Bultacos are fantastic in handling and speed, besides being

beautifully designed motorcycles. They seem to require very little work or replacement parts. It's definitely race-ready off the showroom floor. If you are looking for a bit more travel in the rear and a better rear shock, may I suggest the all-new Luft shock. I checked with Ken Zahrt, again sponsored by Bultaco, riding a new 250. His preference over all other available shocks is the Luft shock. It's an all-new, uniquely designed gas shock offering adjustable damping in all directions. It's built stronger and lighter than most shocks I've seen.

NO MUFF TOO TUFF

Could you spare a moment to help an aspiring four-stroke racer build his dream bike? I am writing to you because you are tops in this field. I presently own an XL250 for playriding and a 360 Bultaco for motocross racing. I would like to have just one bike for both purposes — an open class Honda. Could you advise me on which are the best components to use — wheels, forks, frames, etc. And which engine modifications best fit my needs. I would like the engine to be powerful but without too much sacrifice of dependability. How light could I expect to build a bike like this? One more thing. Due to a clogged oil filter, I just burned out the cam bearings in my XL250 head. Is it possible to replace my complete upper and lower end with XL350 parts and end up with a larger displacement (over 400 if possible)? If not, will I be able to swap XL250-350 engines in the custom frame?

I would certainly appreciate it if you could answer this letter and send me a list of products to build my bike. Thank you for your time.

Art Scott III
Poughkeepsie, New York

You wrote me at just the right time. I too am a four-stroke lover. I just finished my latest creation, Muffin, my Baja 1000 bike. We had a bit of trouble at the 1000, as we developed too much horsepower in this new motor. In the past, we've had minor problems with the clutch, but never an explosion like this one. Muffin was geared for 100 to 105 miles per hour in the dirt and was hookin' up most of the race. That was the problem, the course was rained on the day before, resulting in deep, wet sand — total traction. Two hundred miles through the race we had a six-minute lead over second place when the clutch began slipping under extreme loads, 80 mph plus. Need I say more? It didn't take long to go out, and that ended the race. Now I've corrected the problem with special springs and plates and have been racing it weekly. No matter where I race, this is the ultimate motorcycle. I started with a new '77 XL350 motor. Bill Bell of Long Beach has special racing pistons made which increase your bore to 403cc. His partner in crime, Hurby Linch, long-strokes the crank to increase the total cc's to 440. Along with a trick cam, S&W valve springs and special head porting, the horsepower comes to nearly 45 on my dyno. Believe me, it's a handful, and I recommend horsepower models like this one to experts only. Now, if you want to finish a race you've got to replace a few components built to take the horsepower. Four handmade gears must replace a few weak gears in the gearbox. Your clutch should be replaced with one made by Barnett Manufacturing. Heavy-duty clutch springs made by S&W Engineering are a must. For carburetion we've found great success with the Lectron 38mm silver body. For the average rider, I'd suggest just the 403 piston and let your wallet be your guide to the other pieces. My chassis was built by C&J Racing Frames. Their latest chassis offers ten inches of rear wheel travel and will accept an XL250 or XL350 motor. I used an MR250 Honda gas tank for Baja, as it offered a 100-mile range between pits.

Continued on page 69

Gran Prix Spring/Air Fork Kits

The latest thing in forks similar to the Suzuki factory team. A very soft spring is used in conjunction with air to provide the best combination of progressive action available. Complete kits include tapered damper rods for the maximum in performance. These are the best fork kits available.

#39-2013	RM-250/370	$59.95
#39-2014	1976 Husky	$59.95
#39-2017	1976 CR-125	$59.95
#39-2016	Marzocchi	$33.95

(No damper rods included)

Already have air Forks? Then you only need our Spring/Air conversion Kit (special springs, spacers and instructions). Fits all forks with 35mm or larger legs. **$13.95**

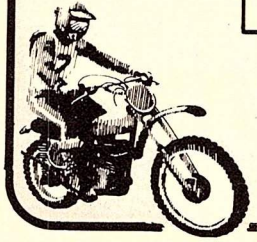
MOTO-X FOX
520 McGLINCY LANE CAMPBELL
CALIFORNIA 95008 (408) 371-1221

Circle 7 on page 72

Circle 8 on page 72

MOVING?

Use this form to notify us at least six weeks before you move.

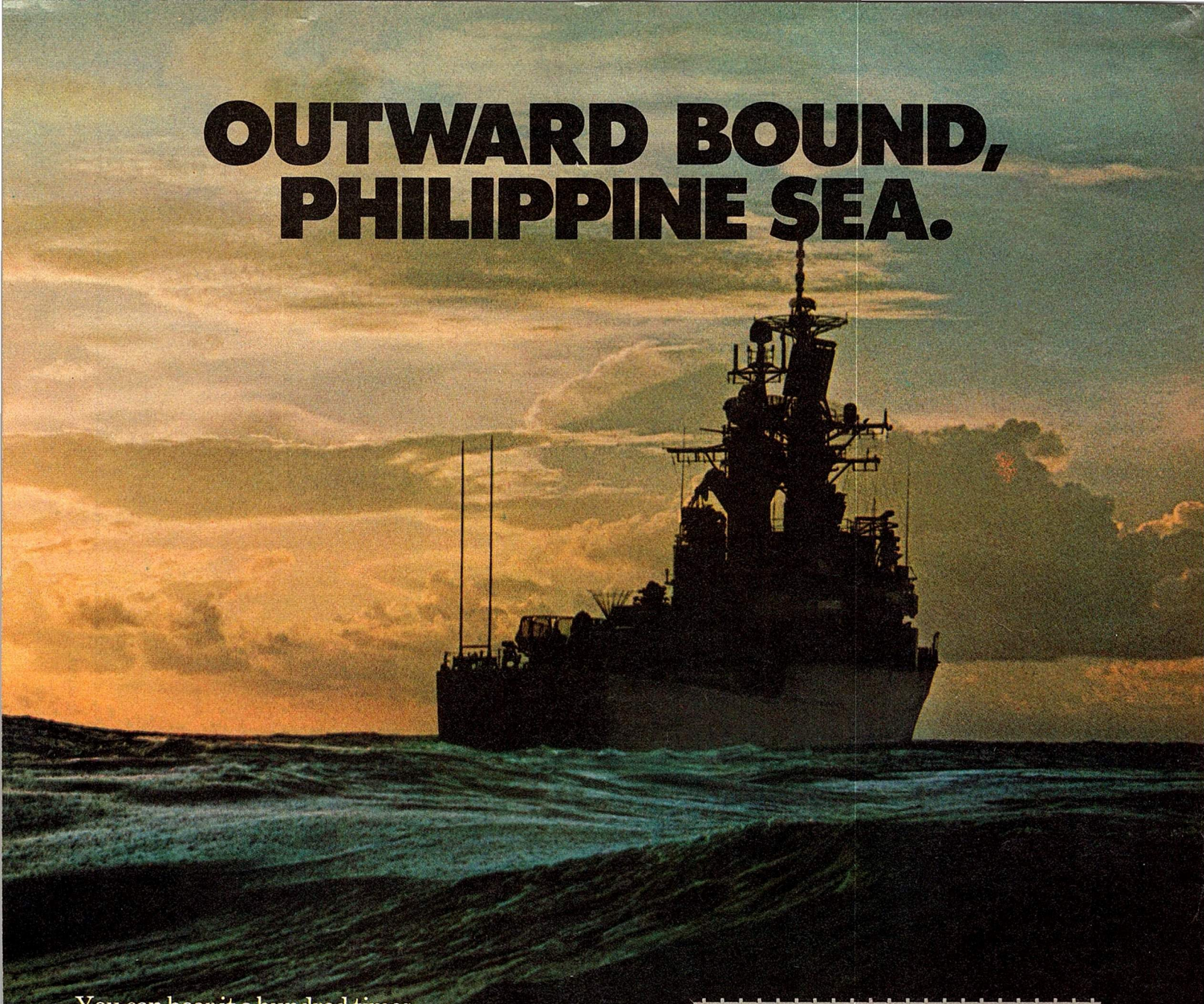


Please attach, in this space, the label from a recent issue to insure proper address corrections.

Mail to: **MOTOCROSS ACTION MAGAZINE**
Subscription Dept.
P.O. Box 317, Encino, CA 91316

NEW ADDRESS:
Name_____
Address_____
City_____
State_____ Zip_____

OUTWARD BOUND, PHILIPPINE SEA.



You can hear it a hundred times—
"Casssst off!"
—but it never fails to get you. You're busy, but you can't help looking up. Then the engines surge, the ship catches speed, and you get that feeling no landsman ever knows.

You're out, you're free, and everything is brand-new.

The Navy can train you in one of sixty career fields. You'll travel, make new friends, get top benefits. For more information, fill out this coupon, see your local Navy recruiter, or call **800-841-8000** toll free. (In Georgia, 800-342-5855.)

Capt. H. C. Atwood, Jr., U. S. Navy B195
NAVY OPPORTUNITY INFORMATION CENTER
P.O. Box 2000, Pelham Manor, N.Y. 10803

☐ Send me more information on Navy opportunities. (G)
☐ Call me. (G)

NAME _____
First (Please Print) Last

ADDRESS _____

CITY _____ STATE _____ ZIP _____

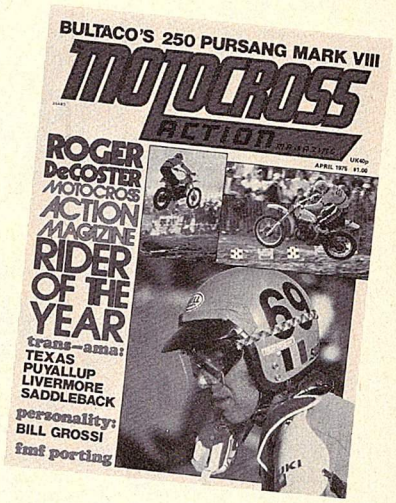
BIRTH DATE _____ _____
Last Grade Completed

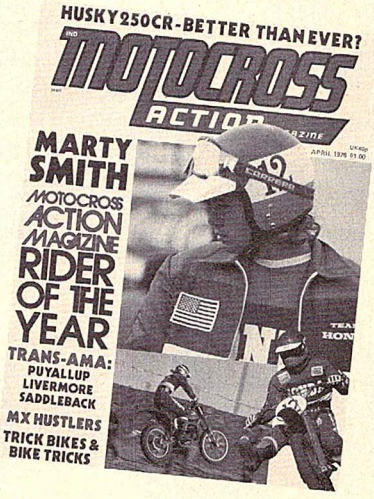
PHONE _____
(Area Code)

MA 3/7

NAVY. IT'S NOT JUST A JOB, IT'S AN ADVENTURE.

1977 ROY AWARD





Who will it be for 1977? Will it be Roger DeCoster, Gerrit Wolsink, or Gaston Rahier? Maybe Marty Smith again, or Bob Hannah, Tony DiStefano, or Pierre Karsmakers. Don't forget Brad Lackey or Jim Pomeroy. And what about Sue Fish?

It's all up to YOU!

You decide! Choose the motocross racer you would most like to see win this fabulous off-road-equipped Toyota mini-pickup. The contest is open to all motocross racers, male or female, from any country. Just pick the one you think is the best, the neatest, or whatever. The winner will carry the title of Rider of the Year, chosen by the readers of MOTOCROSS ACTION Magazine for 1977. You can send in your vote on the handy ballot provided for you here, or make up your own ballot on a letter or postcard. All your votes have to be in by March 1, 1977, and the winner will be announced as soon as the votes are counted.

REMEMBER:

It's up to YOU!

RIDER OF THE YEAR BALLOT

MOTOCROSS ACTION MAGAZINE

Fill in the name of your choice for the MOTOCROSS ACTION RIDER OF THE YEAR and mail it to:

MOTOCROSS ACTION Magazine
RIDER OF THE YEAR
P.O. Box 317
Encino, California 91316

I, being a bonafide motocross fan and faithful reader of the magazine, hereby cast my vote for

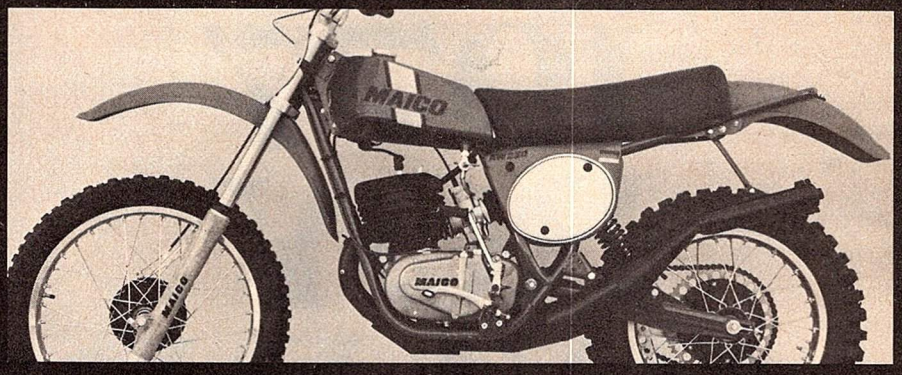
_____

to be Motocross Action's RIDER OF THE YEAR and get the truck.

In what state do you live? _____

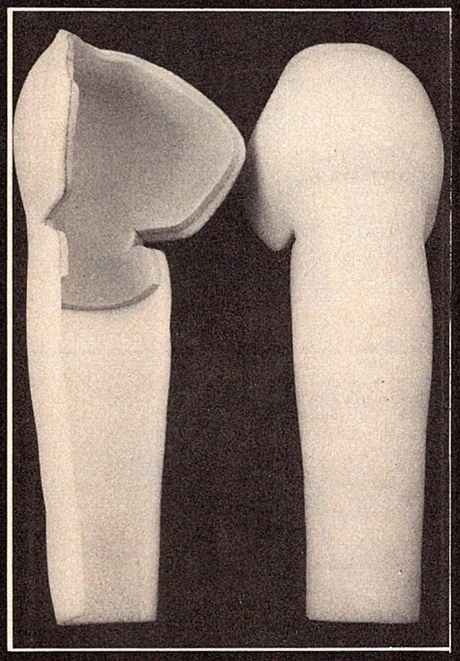
Last Chance

tricks from the trade



NEW HONDA, WHOOPS — MAICO

The '77 AW250 is red. It also has a new "wedge" cylinder and a different pipe to give it more grunt than ever. Like the rest of the line, the latest Maico features a redesigned frame that is wider in the back to accommodate the 9.25 inches of rear wheel travel. A quick job in the front soon had the front forks matching the rear, with 9.25 inches of travel also. Besides more power and suspension, the AW250 sports the longer seat, the new V54 Bing carb and the bright red paint on the tank, frame and fenders to match the rest of the '77 Maico MXers. Rush on down to the closest Maico shop to check them out. If you want to own a really trick one, pick up a can of red paint on the way home, and give the new wedge cylinder the real factory look, just like Pierre's.

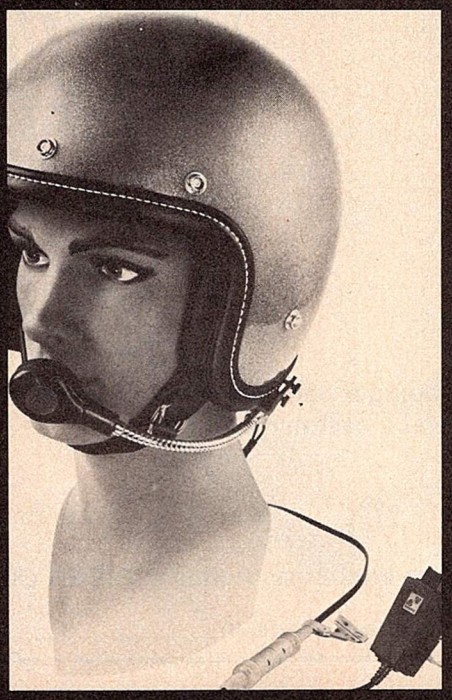


DOWN UNDER

Where does this strange piece of protective equipment go? Down under your leathers. It's the new Kangaroo Shin and Knee Guard. They're made pretty much like helmets and work under the same principle of absorbing and then rebounding, instead of crushing. If you're tired of gnarly rocks dinging your legs you might want to try these out. They're $8.95 a pair from Al Jacobs Motorcycle Accessories, Dept. MXA, P.O. Box 1510, Burbank, California 91507. Big Al is also doing development right now on his Kangaroo Kups, but research has stopped because they still haven't found anyone willing to properly test them out on an old-style Husky.

FACE FILTERS

If the foam in your Scott face mask is torn out, don't fret. Replacement foam packs for the Scott masks are available in a set of three to keep your breathing apparatuses clear and your nose clean. The kit includes all the stuff you need to fix your mask up like new ... which must be the foam pads and glue. Take it easy on the glue; you know how hard you breathe in a long moto, and the fumes could get to you after a while. They're a buck and you can get one from the shop if they get theirs from Progressive Products, Dept. MXA, 1444 Pioneer Way #7, El Cajon, California 92020.

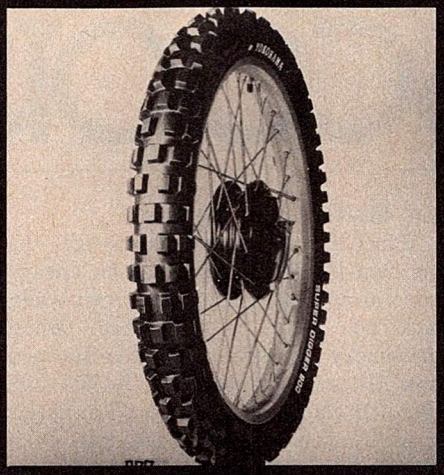


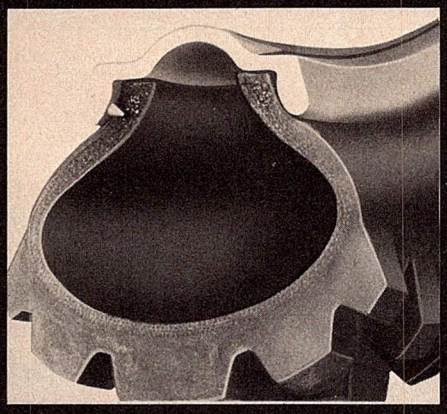
"10-4, GOOD BUDDY. LAST LAP, GASSIT!"

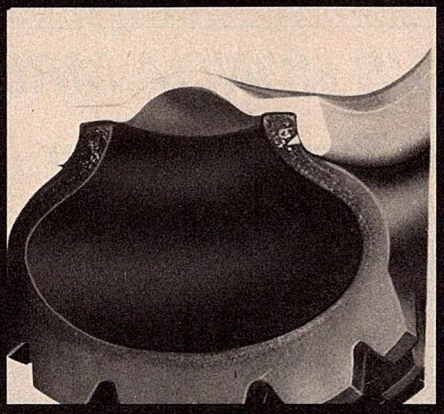
No more spastic hand signals. Say good-bye to chalkboards. With the new Superex Electronics CB helmet, pit crews will finally be able to give their riders clear, concise information on what's happening out on the track. Even better, for once the rider will be able to communicate back to his wrench without pulling over, ripping off his Scott roost mask, and yelling. The CB helmet comes with everything you need to rap during the moto. You talk into the microphone, which is attached to the end of a flexible gooseneck. The ear-speaker is mounted inside the helmet, and the push-to-talk switch is set up just like a kill button. Now, if they can only find some way to incorporate that microphone into a Jofa... The $45 CB helmet can be found in motorcycle shops if you look hard, or in CB shops, or write to Superex Electronics Corp., Dept. MXA, 151 Ludlow St., Yonkers, New York 10705.

SPEEDWAY KNOBBY

Remember when moving your shocks up was the latest craze? Well, maybe another fad is about to hit, and Yokohama will be ready when we are — with their 23-inch front knobby. If you have trouble reaching the ground now, wait'll you try a bike with one of these on it. The Super Digger 900, as they call it, is three inches wide and made of a four-ply nylon construction. Now all they need is for someone to start making 23-inch rims strong enough for motocross. Get more facts by writing to Yokohama Rubber, Dept. MXA, 1530 Church Road, Montebello, California 90640.







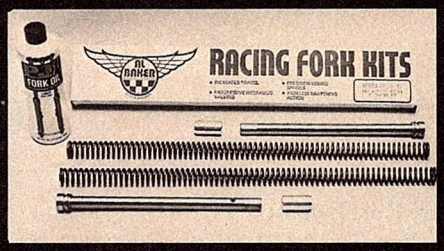
Same 4.50" Tire

FUN ON THE SUN

Next to keeping your chain on, the biggest interest generated by the increase in rear wheel travel has been in getting the power to the ground. The first thing that comes to mind is bigger knobbies, but there is a limit. The next logical step, then, would be to make the rims wider so more knob bites the ground. At least that's what Sun Metal figured, and when it comes to rims they know what's going on. They now offer an extra-wide 2.75-inch rim for rear wheels in either the regular old dependable 18-inch diameter or the new 17-inch model that is slowly becoming a hit with the crowd. The rims are of the same fine quality that Sun is known for, and with the wide profile design, tractability and tractor-like traction should be yours. Now if only they would get to work on a 23-inch front rim we'd be in business. For the facts, write to Sun Metal, Dept. MXA, P.O. Box 778, Warsaw, Indiana 46580.

NEW HUSKYS

The big thing about the new 360 Husqvarna is that now it's a 390. Like the 250 pictured below, it has leading axle forks, a through-the-frame pipe, redesigned gas Girlings with dual rate springs that give ten inches of bounce, and a steeper steering angle so the thing will turn. The Swedish wizards have also made the magneto cover hug the internals, given the bikes wider, better shaped unbreakable fenders, moved the swingarm pivot point closer to the sprocket to reduce chain hassles, added a new chain tensioner, and rubber-mounted the bars in the same way as the Yamaha factory OWs. The 1977 Huskys can be found at your local Husqvarna dealer if he's gotten the new batch in by now.



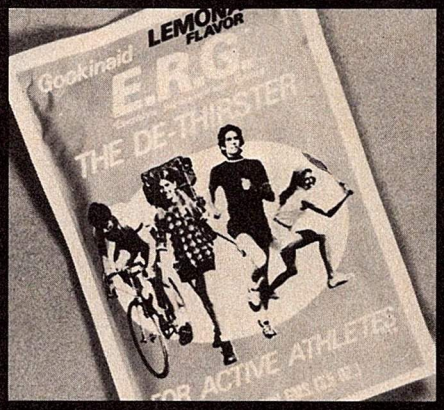
WINGNUT

Dear Al Baker,

I have a Honda Elsinore CR125M2 and want more suspension in the front. What do you suggest? — Johnny Gofast

Dear Johnny,

I recommend the Al Baker fork kit. It comes complete with trick dampening rods and special wound springs. With the new hydraulic valving that my kit produces, the harsh dampening action and short stroke of the stock forks will be eliminated. Not only that, but the travel is increased from 7.5 inches to 9 inches. I think it's just the thing your bike needs. Please send me $59.95 right away. — Al Baker. P.S. My shop address is 15174 Raymer St., Van Nuys, California 91405.



TASTES AS GOOD AS ITS NAME

Yum-yum, Gookinaid E.R.G. When you come in from one of those long motos that just whipped you to death, anything tastes good. While most of us prefer Coors, Gatorade or even a can of the Doc, they rarely provide the necessary amounts of electrolyte salts that your body put out and your jersey soaked up. Gookinaid E.R.G. is an electrolyte refresher for athletes that was developed by Bill Gookin, a San Diego marathon runner and chemist, who analyzed his own sweat to come up with the proper ratio of potassium, magnesium, calcium, sodium and liquid drink that would quench his thirst, give him extra zap and prevent cramps and muscle fatigue. Kinda like pre-mix for the bod. Bill's Gookinaid E.R.G. is available in three tasty flavors and four package sizes. To find out more, write to Gookinaid E.R.G., Dept, MXA, 5946 Wenrich Dr., San Diego, California, 92120.

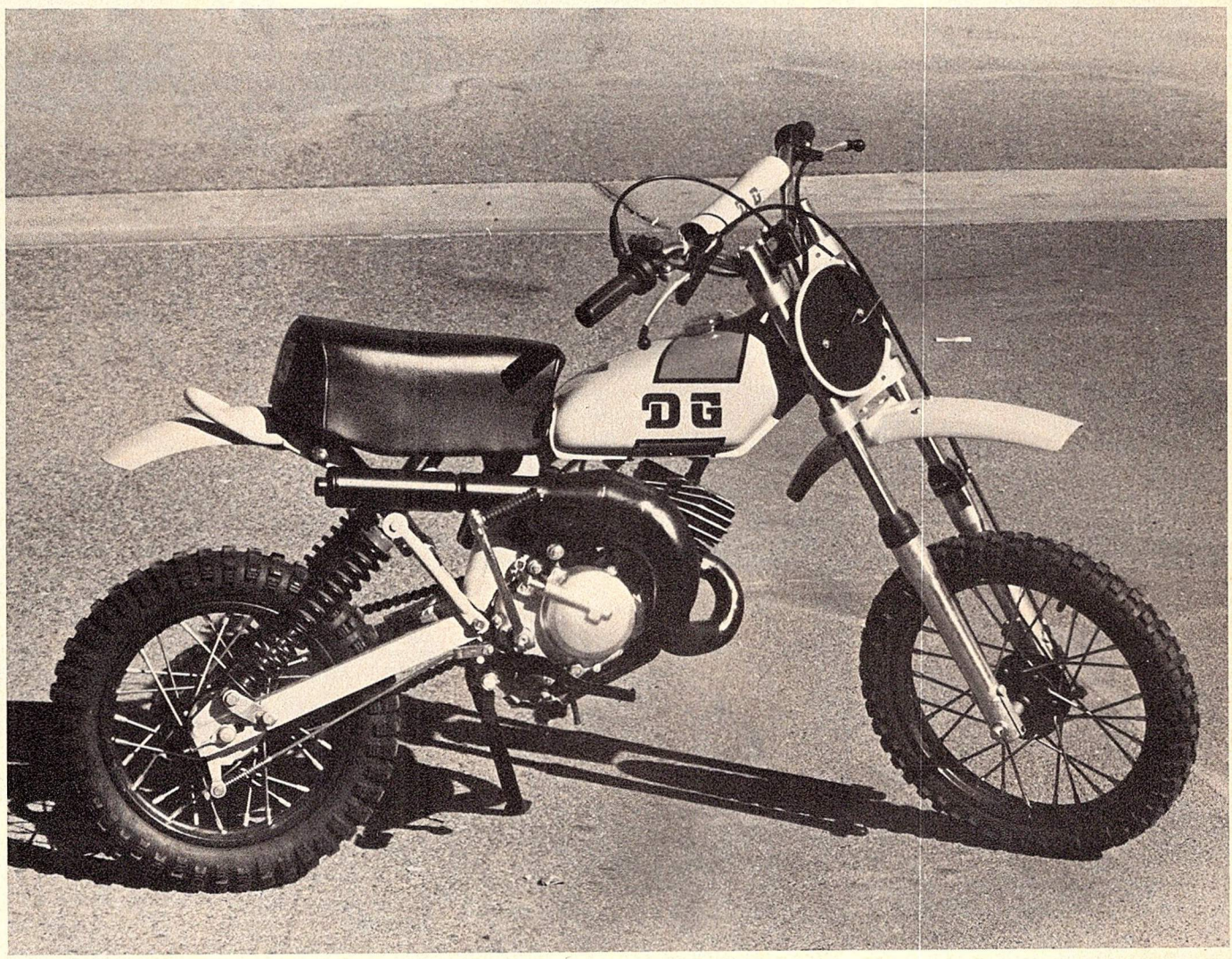
SCOOTS

DG'S HONDA MR50, The Smallest Factory Racer in Existence

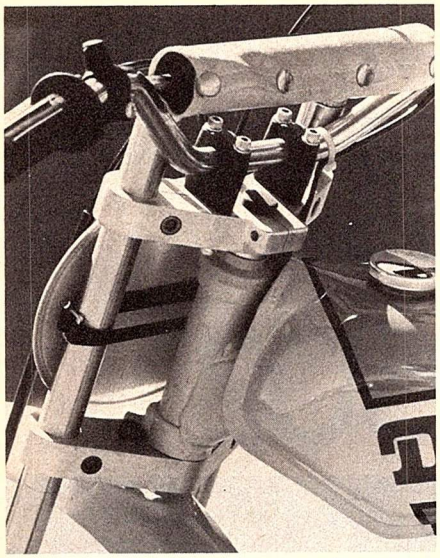
By Curt Evans

Just for fun, Gary Harlow, the guy who keeps things rolling down at DG Performance Specialties, took a Honda MR50 and tricked it out to the max. He wasn't looking for performance, he really never intended to use it for a pit bike, in fact, it sits in his office most of the time. It's just that when you have an entire warehouse full of trickery at your disposal you do these kinds of things for fun. Besides, it's a neat toy.

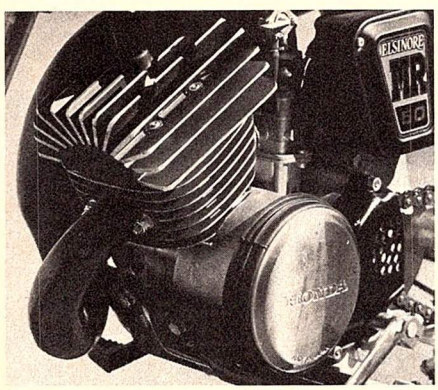
Harry Klemm, DG's wild wrench, has his own MR50 pit bike that he always bops around on out at the races when he's not busy prepping the racing machinery. So, when Gary gave Harry a new MR and said go for it, he did just that. Of course, the whole bike wasn't built by just walking back into DG's massive storage room of motocross goodies and grabbing stuff off the shelves. The bike sports a special set of aluminum mini-Marzocchi forks, the only ones in the country, and the triple clamps had to be hand-made to adapt them to the shrunken Elsinore. Both the aluminum swingarm and tiny up-pipe were fabricated especially for the bike. As it sits, the MR50 has six inches of travel in the front and seven and a half inches in the rear. Not too bad for a mini that even makes an XR75 look big.



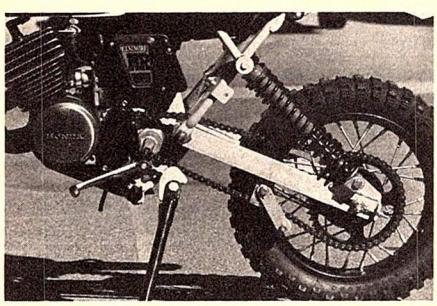
Naturally, the mini is all jazzed out in typical DG fashion. The frame, fenders and tank are bright yellow with blue trim and the infamous DG logo is everywhere. The seat has a DG mini kit which adds two inches of extra padding. The little booger only weighs 105 pounds.



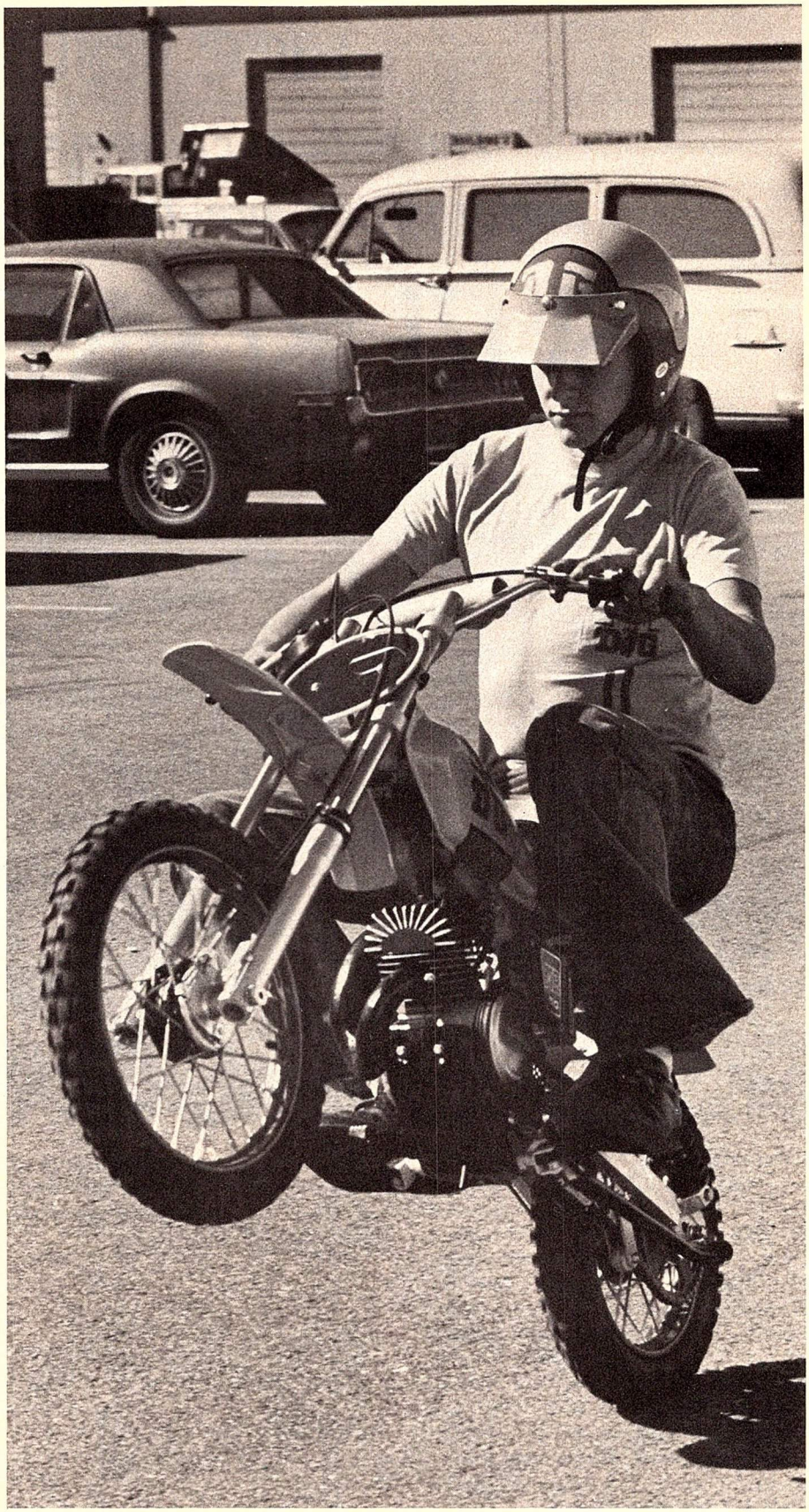
In order to use a special set of six-inch-travel aluminum mini-Marzocchi forks it was necessary to hand-make the triple clamps out of aluminum billet. Two DG wrenches spent 13 hours in the shop before they were finished. "That was definitely the most difficult thing about building the bike," says a proud Harry Klemm.



To get some power out of the puny motor, a sano up-pipe was welded together, a DG mini radial head bolted on and a Moto-Tek ignition zapped into place. That's only the beginning of what they plan to do to it, and engine modification will continue until the rear 2.75 x 14 IRC knobby starts throwing some decent-size roosts.



In the rear, a pair of 11.8-inch gas Girlings are laid down on a homemade aluminum swingarm, yielding 7½ inches of travel. A minimum amount of modification had to be made where the shocks mount to the frame, and the biggest problem with this setup—and the whole bike, in fact—is the radical chain routing due to the excessive swingarm angle. Both wheels have heavy-duty eight-gauge blue-anodized spokes to keep things strong.

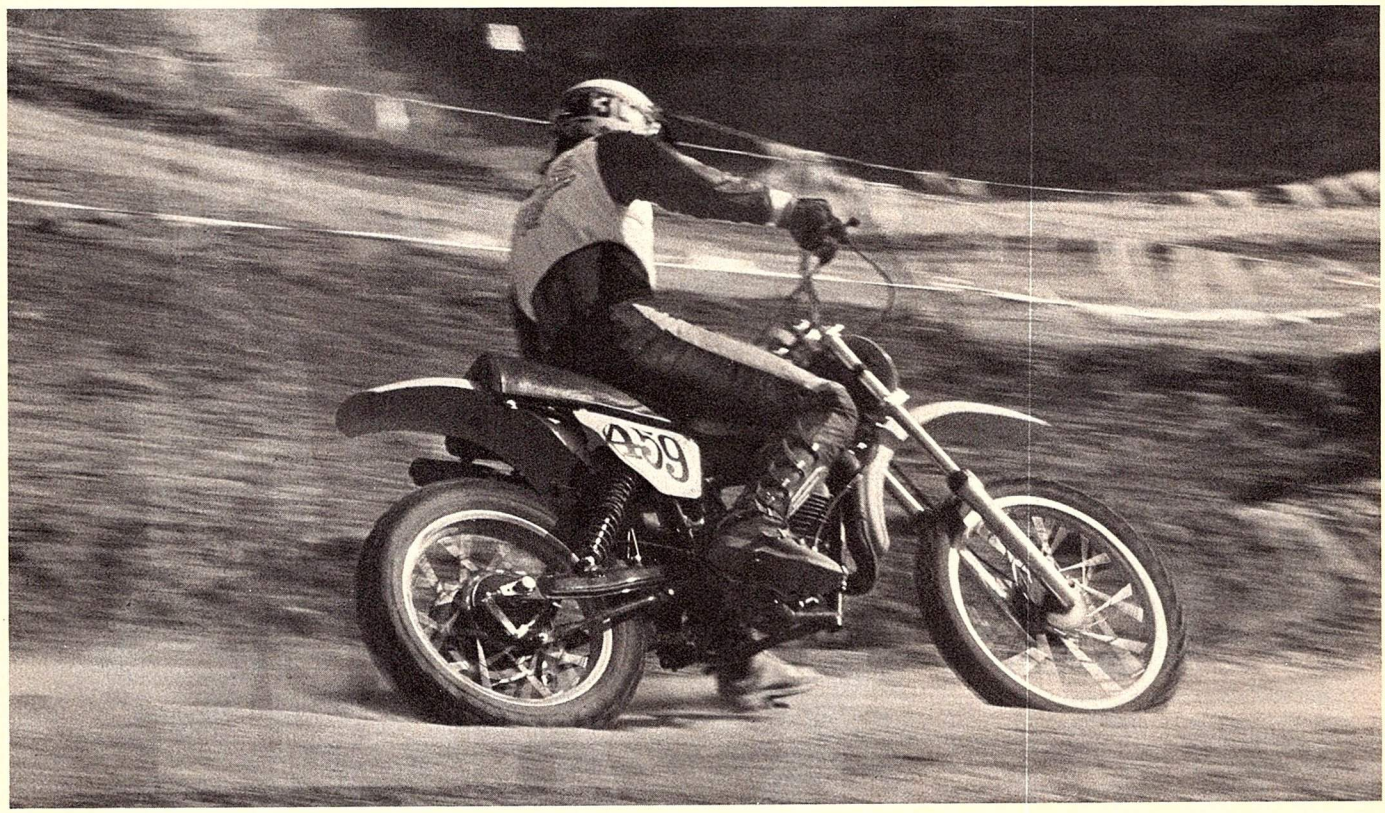


Top-notch DG wrench Harry Klemm finds the MR50's explosive powerband too much to handle as he sneaks a quick spin on it in the DG parking lot while Gary Harlow is still out to lunch. The things's a real tiger to ride because it's so small. The pegs were designed to fit a ballerina and the grips are so short that a normal-sized hand has trouble squeezing in. Is that why one of Harry's fingers is off the bars, or could it be that he actually had to pop the clutch to get a wheelie out of the thing?

race test

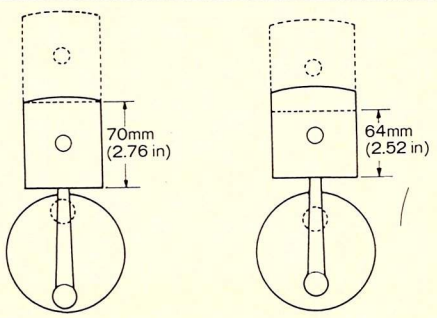
The perfect combination of performance, practicality and price

SUZUKI RM250B



Our introduction to the RM250B came one week prior to the start of the 1976 Trans-AMA. With final preparations for our two-month road trip in operation, there was little time for anything more than one race at the local Saturday Saddleback motocross. Associate Editor Paul Boudreau picked up the brand-new bike on Thursday and unloaded it two days later at Saddleback Park, just in time for morning practice. One kick brought the machine to life, thereby beginning a brief but notable career competing under the colors of MOTOCROSS ACTION Magazine.

An hour later Baz clicked it into second gear and sprang from the starting gate with a clean holeshot. Totally unused to the loneliness of the lead, he blew the first turn, allowing a few hotshoes by, but held a good position until a minor miscalculation at the midpoint sent him sprawling. Saturday Saddleback offers 40-minute motos so he had ample time to work back up to sixth before time ran out.



RM250B (NEW) RM250A (OLD)

The second moto was a replay of the first except for the crash. A little more in control now of the powerful B-type engine, the Ass. Ed. showed the way into the first turn, but again lost out to three berserkos going down the hill. Banking into the right-hand sweeper at the base of Webco Hill, Baz dove to the inside and powered his way back into second place. Two laps later the leader got sideways on the slippery adobe and Team MXA was in command. For three laps The Baz and The Bike drank in the glory of first place before settling down to a more realistic pace and working back to fifth at the finish.

Two 40-minute motos do a lot to form a first impression and the B got an A in its first test. From experience we know that the racetrack is not a good place to break in a new bike. Normally there are problems any machine will encounter during the process of seating all the parts in the first few hours of running. It is foolish to assume that how the bike gets thrown together at the factory is

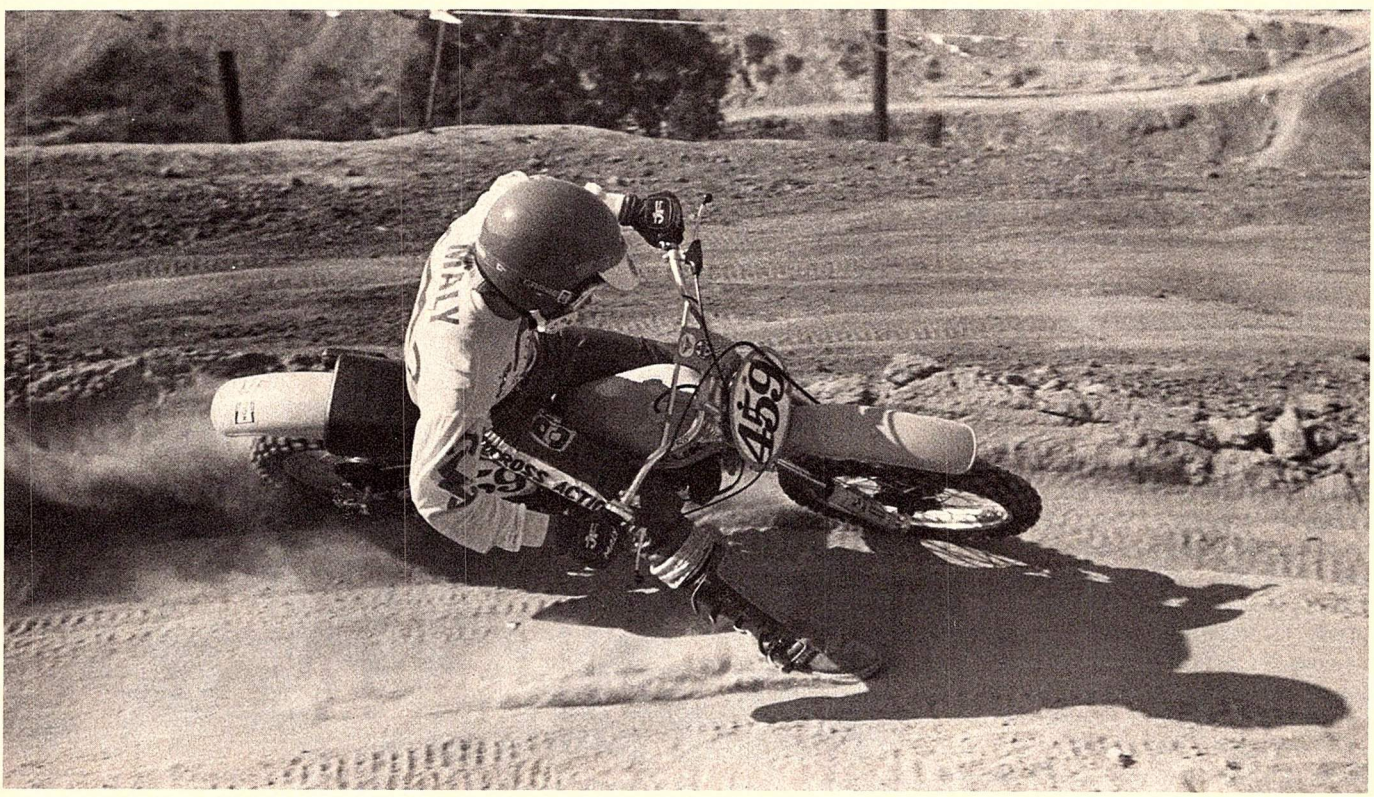
Larger rear axles prevent bending. Rear shock mount has been moved slightly on the box section swingarm to provide more travel. We found the stock remote reservoir shocks to be superior to these S&W replacement units.

perfect for two long motos, but fortunately we were graced with excellent preparation at the hands of the technicians at U.S. Suzuki. Even so, we were amazed at how well the bike performed and how little had to be done to it.

The most obvious improvement to the RM250 is the new long-stroke engine. Relocating the connecting rod pin in the full circle crank wheels increased the piston stroke by 6mm and caused the cylinder bore to be reduced from 70mm to 67mm to maintain the 246cc engine displacement. The Suzuki engine now boasts an undersquare bore/stroke relationship, which means the stroke is longer than the bore is wide, as opposed to an oversquare configuration that has been standard practice in Japanese quarter-liter engines since time began.

The difference between the two approaches is a qualitative one. Because of the larger surface area of its piston, lower piston speeds and shorter stroke, it is easier to increase horsepower in the oversquare engine by standard methods without overstressing the components. Since big numbers were the goal of Japanese engine designers from the beginning, the oversquare engine was the obvious way to go.

But now, with almost a decade of Grand Prix racing experience, they know otherwise. When you talk about power in motocross racing, you're talking mainly about acceleration. The chief proponent of acceleration is

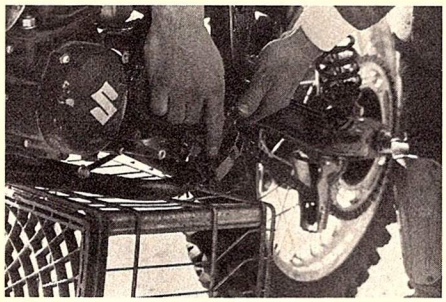


Leading axle front geometry provides excellent steering response.

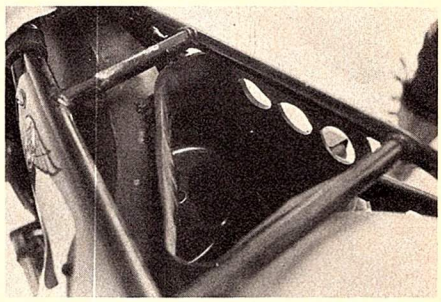
traction, but traction on dirt is hard to come by. Most engine designers are not too concerned with this problem since most motor racing is done on paved surfaces where traction is always available. Therefore most racing engines are of the oversquare design and able to make the best use of quantum horsepower increases. But the designer of a motocross racing engine is faced with a unique problem: how to transmit the available horsepower to the rear wheel in such a way as to produce an efficient flow of energy into a loose, movable surface. A standard five-inch-wide knobby tire can only move so much dirt backward to overcome the inertia of a 100 kilogram motorcycle and move it forward. It wouldn't be too hard to deliver 50 horsepower from a short-stroke engine, but it would only serve to get the rear wheel spinning faster, which would not allow the knobs a chance to dig in and get a grip. The result of this approach can be clearly seen in some of the old films of Roger DeCoster on the early development Grand Prix Suzukis. Accelerating down the straights, he would sit up on the gas tank trying to keep some semblance of control over the front end while the rear wheel whipped viciously from side to side attempting to expend some of the enormous horsepower those engines produced.

The answer shadowed Suzuki's development program at every Grand Prix race in the form of the Maico production motocrossers. Their bikes, even the 250, utilized the long-stroke engine. Since the Maico was Suzuki's main competition, it was easy to compare the two bikes when factory riders Adolf Weil or Willi Bauer battled DeCoster for the lead. The Suzuki would generate more horsepower, but it was clear that the Maico was putting its available power to the ground.

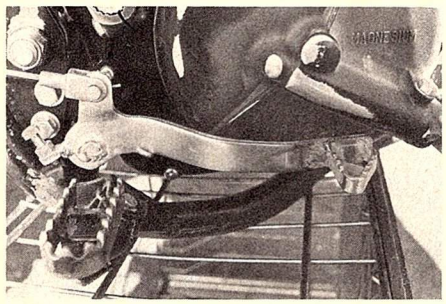
The secret is leverage. A crank is basically a lever that translates the downward movement of the piston into rotating energy. The inertia of the crank then returns the piston upward on the compression stroke to ignition and combustion which forces the piston back down to complete the cycle. The length of the lever is the distance between the center of the crank and the center of the crank pin. As the location of the crank pin moves away from the center of the crank, the length of the lever increases as does the length of the stroke. As the length of the lever increases, the amount of pressure needed to move the lever and set the drivetrain in motion *decreases*. As an example, two kids are playing on a seesaw, which is also a lever. One kid weighs 100 pounds and



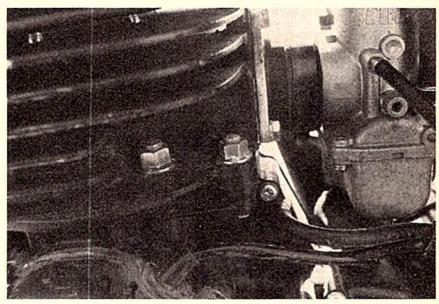
This square plate under the footpeg has a weak weld and should be rewelded or it will break off and allow the pegs to sag.



New design air box has vent holes and can be serviced more easily than before. Bending the exhaust pipe in a crash will sometimes cause it to melt the air box.



Keep an eye out for cracks in the brake pedal. Ours had to be welded.



Shouldered nuts preclude the use of washers and facilitate engine work.

Notched mounting tab allows the seat to be removed without removing the mounting bolt.

Front brake cable must be securely taped to the fork slider or it will foul in the spokes. Ball of tape is to keep the cable from sliding down through the guide.

The RM250B is an excellent bike for the starving professional.

SEVENTEEN-YEAR-OLD Jeff Jennings rides his modified RM250B to victory in the final Support moto of the Saddleback Trans-AMA. (Boudreau)

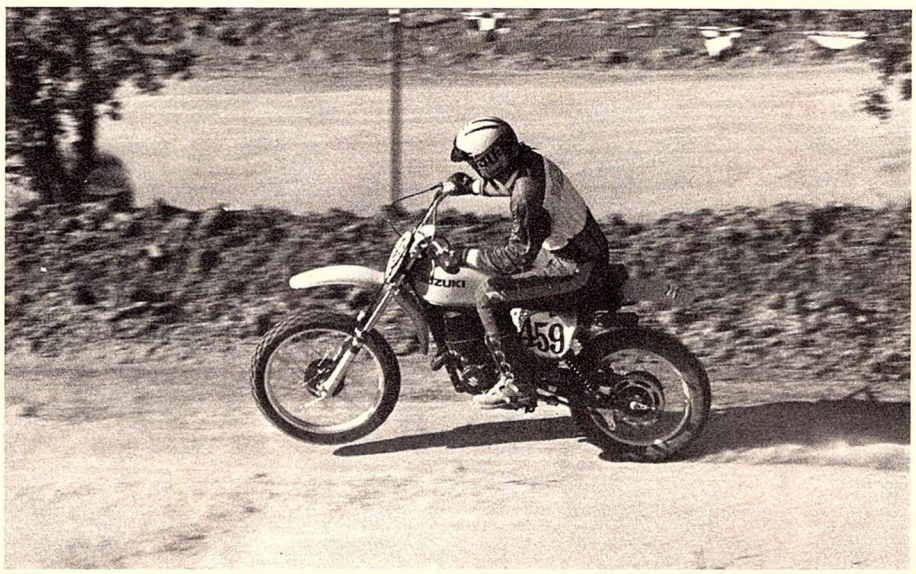
SUZUKI

the other kid only weighs 50 pounds. Seated at equal distances from the middle of the seesaw, there is no way the 50-pound kid is going to move the 100-pound kid. He is either going to have to pile rocks in his lap or increase his leverage by increasing the distance between himself and the center of the seesaw. Not wanting to load himself with rocks, the kid backs up on the seesaw until he has increased the length of his lever enough to move the other kid. He still only weighs 50 pounds but he has used the advantage of a longer lever to move the heavier kid.

Getting back to racing engines, this means that a long-stroke engine, because of its leverage advantage, can set the drivetrain in motion against the inertia of the motorcycle with less horsepower and at a lower rpm than a short-stroke engine can. Consequently, this reduces the tendency of the rear wheel to start spinning and at the same time, since at low rpm there is a longer duration between power strokes, gives the knobs a little more time to dig in and get a grip on the dirt. The net result is traction and controlled acceleration, which means holeshots, and that's where our holeshots came from.

Of course, as we know by now, nothing comes without a price, and the price for this qualitative increase is a quantum decrease in top end power. Because the piston must move 12mm farther per revolution, piston speeds become quite high at peak rpm, and with greater piston speed comes more cylinder drag, higher engine temperatures and the further power-robbing influences occurring when the piston must change direction at the top and bottom of the stroke. They've tried to minimize these effects by using Keystone rings and lowering all the scavenging ports to achieve almost a full point increase in the compression ratio, but the output still softens at the top. Therefore, the hot tip for getting up speed is to short shift the five-speed gearbox. Short shifting simply means punching in the next higher gear before the revs peak and the power flattens.

Continued on page 70



Mid-range power finds its way to the ground because of the tractive forces of a long-stroke engine.

The trick to getting the torquey 250 down the straights is to find top gear as soon as possible.

SPECIFICATIONS

Make	Suzuki
Model	RM250B
Country of Manufacture	Japan
Retail Price	$1445

ENGINE

Type	Two-stroke, piston-port, reed-valve
Bore & Stroke	70mmx64mm
Displacement	246cc
Compression Ratio	7.1:1
Cylinder	Four scavenging flows through six ports
Carburetion	Mikuni VM 36mm
Ignition	Suzuki PEI (Pointless (Electronic Ignition)
Air Filter	Oiled foam

TRANSMISSION

Type	Five-speed, constant-mesh
Ratios	2.076, 1.750, 1.352, 1.105, 0.913
Primary	2.727 (60/22)
Clutch	Wet multi-plate
Final Ratio	3.846 (50/13)
Chain	D.I.D 520

SUSPENSION

Front	Forward-mount axle, telescopic, oil-dampened
Rear	Laydown, remote reservoir, gas/oil-dampened
Travel	8.6 inches front, 8.4 inches rear

DIMENSIONS

Wheelbase	56 inches
Ground Clearance	10.4 inches
Weight Bias	53% rear, 47% front
Track Weight	217 pounds

CAPACITIES

Fuel	2.1 gallons
Transmission	900cc
Forks	245cc

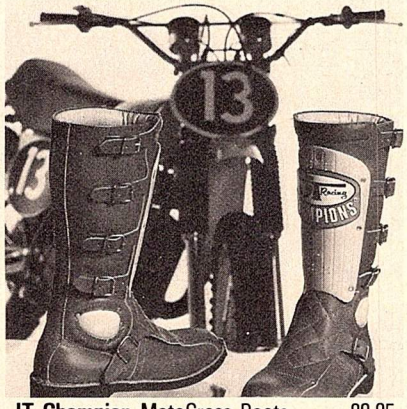
Circle 9 on page 72

JT Racing

JT GUARANTEED GLOVES

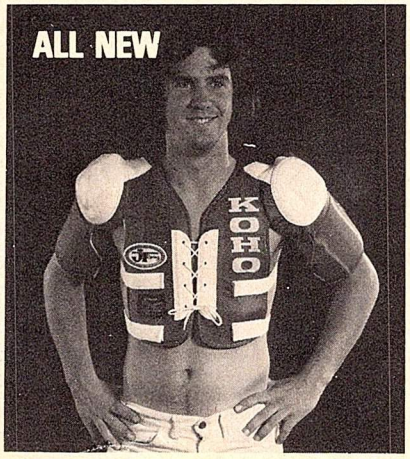
Fully Padded Palm & Thumb

JT Wolsink – (black · white) Extra padding $28.85
JT Champions – (orange, black & white) $28.85
JT Mikkola – (red & black) $28.85
JT American Bicentennial Model (red, white & blue) $25.85
Thumb Padded – No Palm Padding
Sizes, S, M, L & XL
Your Name (7 letter limit) . . . . . $ 5.00



JT Champion MotoCross Boots . . . 89.95
Gerrit Wolsink Model
Grand Prix Proven – 3 color combinations:

- Red with Yellow Plastic Plate
- Blue with Yellow Plastic Plate
- Black with Yellow Plastic Plate



Koho Shoulder & Chest Protector. $39.95
Koho Kids Shoulder & Chest Protector $35.95

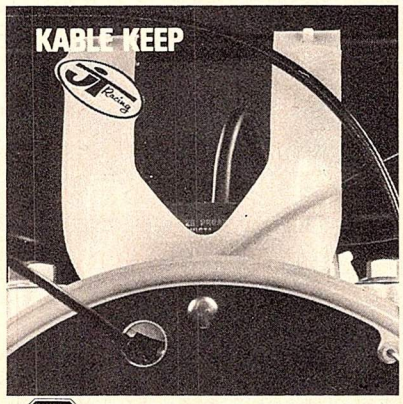
JT "unleathers" by Koho

Sizes 28, 30, 32, 34 and 36. . . . . $89.95
Mikkola – red, white & blue
Husqvarna-Maico – blue-yellow
Bultaco – red, yellow & black
Yamaha-Suzuki – yellow, black & white
Team FMF – red & yellow
Team Honda $109.95
Finn Fighter 707 Face Mask . . . . . $ 6.95
JT Team Peak (with JT logo) . . . . . $ 3.95
red, yellow, white & blue
*Approved for A.M.A. Professional Motocross
WFO Acrylic Jerseys – Sizes: S, M, L & XL
Absorbent, will not fade or shrink
Solid Colors – red, blue, yellow $12.95
Red, blue, yellow $12.95
Red yoke-sleeve/white body. $12.95
Blue yoke-sleeve/white body $12.95
Yellow yoke-sleeve/white body. $12.95
Blue yoke-sleeve/yellow body. $12.95

***We do* CUSTOM LETTERING**
for Jerseys & Pants

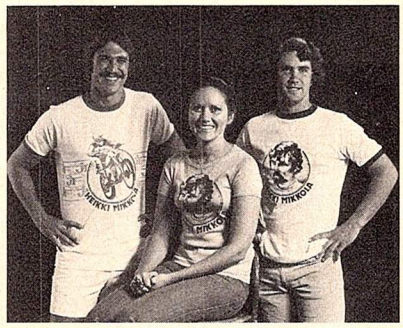
Jerseys AMA Regulation size, name & number
Name (3" high). . . . . $ .60/letter
Number (8" high). $1.50/number
JT Team Logo (front only) $2.50

MX Pants (rear only)
Name. $1.50/letter
JT Logo $5.00



STOP

Stop Snagged Front Brake Cables (as seen on most Grand Prix Bikes) Mounting Equipment Included. $1.95



Men-of-Motocross T-Shirts
"The Greatest Names in Motocross"
FEATURING THESE FAMOUS WORLD CHAMPIONS:

Jöel Robert (6 Time World Champion 250cc)
Heikki Mikkola (Action T-Shirt)
Heikki Mikkola (Portrait)
Gaston Rahier (1977 World Champion)
Harry Everts (1976 World Champion) 250cc
Gennadij Moiseev (1975 250cc) KTM
Gerrit Wolsink (3 Time Hang Ten GP Winner)
Bob Hannah (125 National Champion)
Ronnie Zigafouse (30cc OKKI)

Available in 100% cotton Ringer T-Shirt in
Sizes S, M, L, XL $5.95
Available in womens sizes S, M, L $5.95
JT Team Hat. Orange/White/Black with JT Embroidered Emblem on the front. Sizes, S, M, L, XL $4.95
JT Ringer T-Shirt with JT Logo screened.
Sizes S, M, L, XL $4.95
JT Training Hat. Orange, White, and Black with JT Patch $4.95

All New Color Catalog $1.50

NAME _____
ADDRESS _____
CITY _____ STATE _____ ZIP _____
Item _____ Size _____ Color _____
Name on Glove _____ Amt. Enclosed _____
☐ Master Charge ☐ American Express ☐ Bank Americard # _____ Exp. Date _____

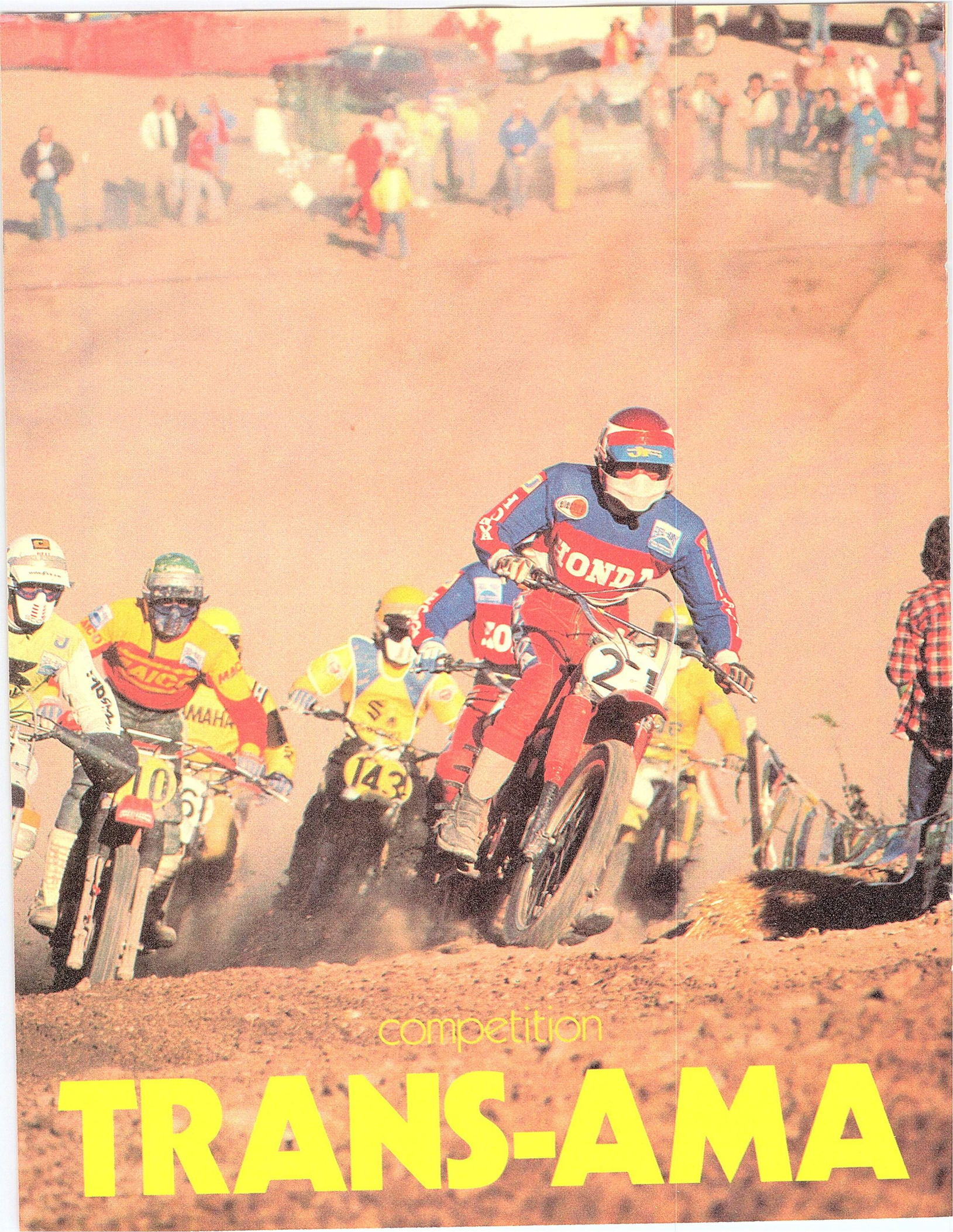
*Send Money Order to avoid delay in shipping. Calif. residents add 6% State Sales Tax. Will ship C.O.D. same day! For *super fast* last minute delivery call us *un*-collect.

For Super Fast Christmas Delivery, Call Collect (714) 479-9696

For decals send self addressed, stamped envelope – 50¢

JT Racing Imports – 303 W. 35th Street, Suite D, National City, CA 92050

(DEALER ENQUIRES INVITED)



competition

TRANS-AMA

The series finishes on the West Coast:

Two double wins for DeCoster but here come the Americans

By Paul Boudreau

Photographers: Paul Boudreau, Curt Evans, Marcia Holley, Jim Gianatsis, Dave Porter

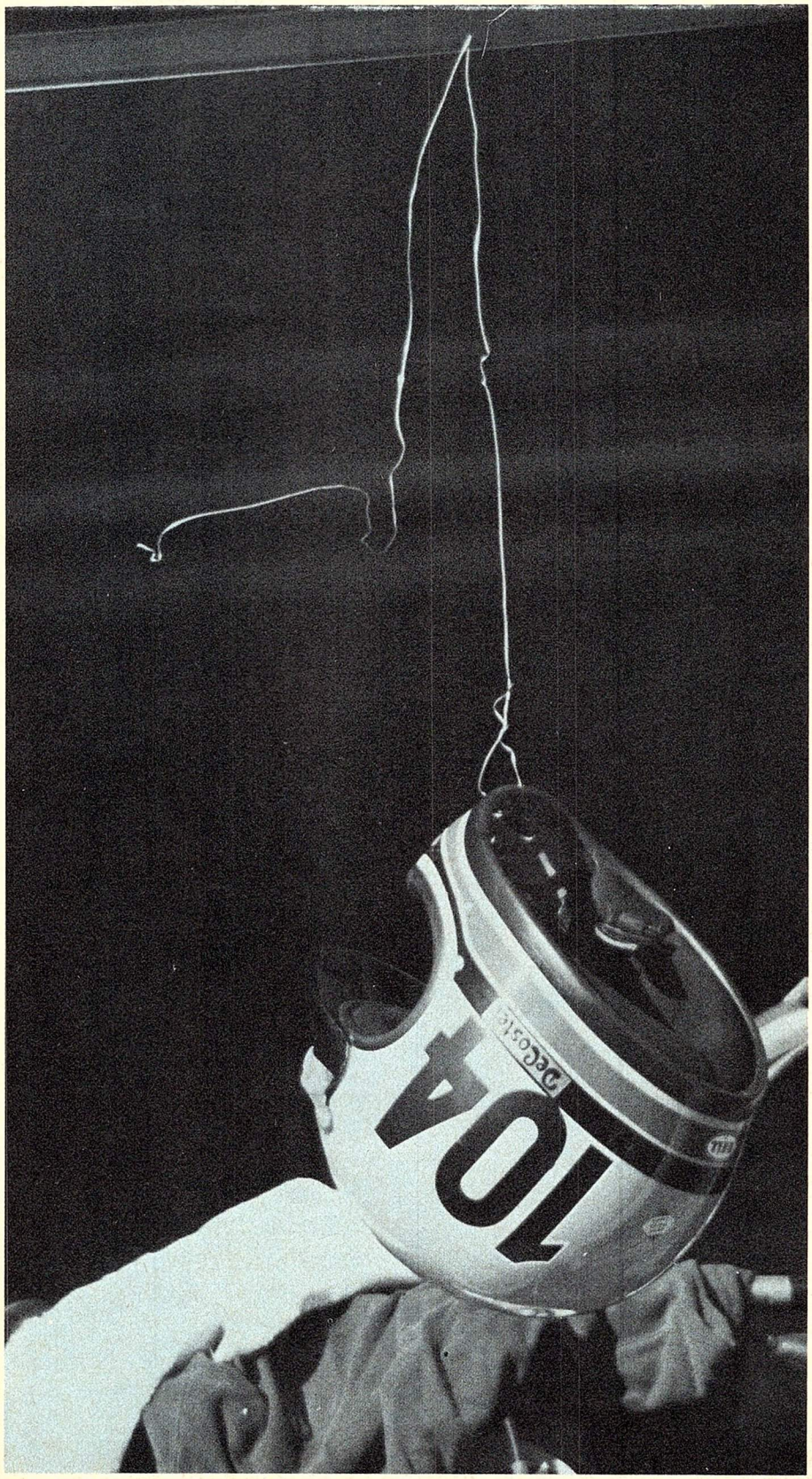
The 1976 Trans-AMA has come and gone and once again Roger DeCoster, the five-time World Champion, has dominated the series. He took the point lead at the second event of the ten-race series and never looked back. Three of the overall wins fell into the hands of Kent Howerton, Sylvain Geboers and Bob Hannah, but the rest went to DeCoster. When he was good, he was very good, scoring double wins at Unadilla, Saddleback and Sears Point. When he wasn't so good, he was still very professional, scoring overall victories at three events without winning a moto. So it was with helpful portions of skill, endurance and luck that DeCoster took home to Belgium his third straight Trans-AMA title.

But if this series was any indication of how well American riders are doing on an international level, then there is good news and bad news. The good news is that the Americans are fast. Gary Semics, Tommy Croft, Bob Hannah, Kent Howerton, Gaylon Mosier, Marty Smith and Jim Weinert are racing with the Europeans at Grand Prix speeds. They have learned the techniques of conditioning and concentration that have put them on a level with the best in the world. What they haven't been quite able to master, and here's the bad news, is consistency. Semics and Howerton have run nose to nose with DeCoster when the opportunities presented themselves, but it was DeCoster who got the finishes. For one reason or another, whether it was bad starts, broken parts, little crashes or bad batches of fuel, the hot Americans weren't able to put together two motos.

The one American showing the highest degree of development was Brad Lackey. His three years in Europe racing for the Husqvarna factory have taught him the value of determination. A luckless season kept him down in the World Championships, but an equally luckless series couldn't keep him away from a second place in the final standings. Lackey's spirit of "press on regardless" parlayed many niggling race disasters into the finishes he needed to keep the clamoring pack of American riders snapping at his heels but never bringing him down.

Continued

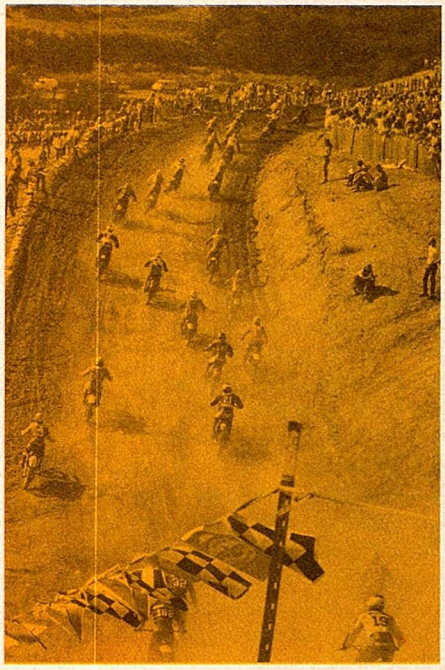
Roger DeCoster hung his hat on a third Trans-AMA series championship.



TOMMY CROFT (21) led all Americans in moto wins. (Boudreau)

saddleback

The series leaders continued their battles at Saddleback Park, the seventh race of the series, in Southern California. Saddleback wears many faces. In the morning, fresh from its pre-race discing and watering, the surface resembles oatmeal and brown sugar. Working a valley between two big hills, the course runs up and down gentle slopes in a series of long straights, sweeping turns and a hair-raising downhill. Practice is the best time to ride Saddleback, when traction is abundant on the spongy surface and many lines are available to the skilled rider. But by the first moto the surface is packed to the consistency of hot asphalt and by afternoon the California sun has baked it as hard and



The Trans-AMA international field makes the first turn up Webco Hill.

smooth as concrete. This is when the track gets "local." SoCal riders practice on this track during the week when it's dry and know all its moods and personalities. Traditionally the lines move to the outside when it's dry, and the riders run wide open on the hard lips built up from the clay-like adobe. Riding their bikes almost horizontally on the steep banking, the locals have mastered the art of slingshotting the turns to gain speed down the straights and avoid the slippery snares of the inside line.

But DeCoster, ever cunning and always ready with a new trick from his

YOUNG SPECTATOR encourages Roger DeCoster to "gas it" in his pursuit of Graham Noyce at Sears Point. (Boudreau)

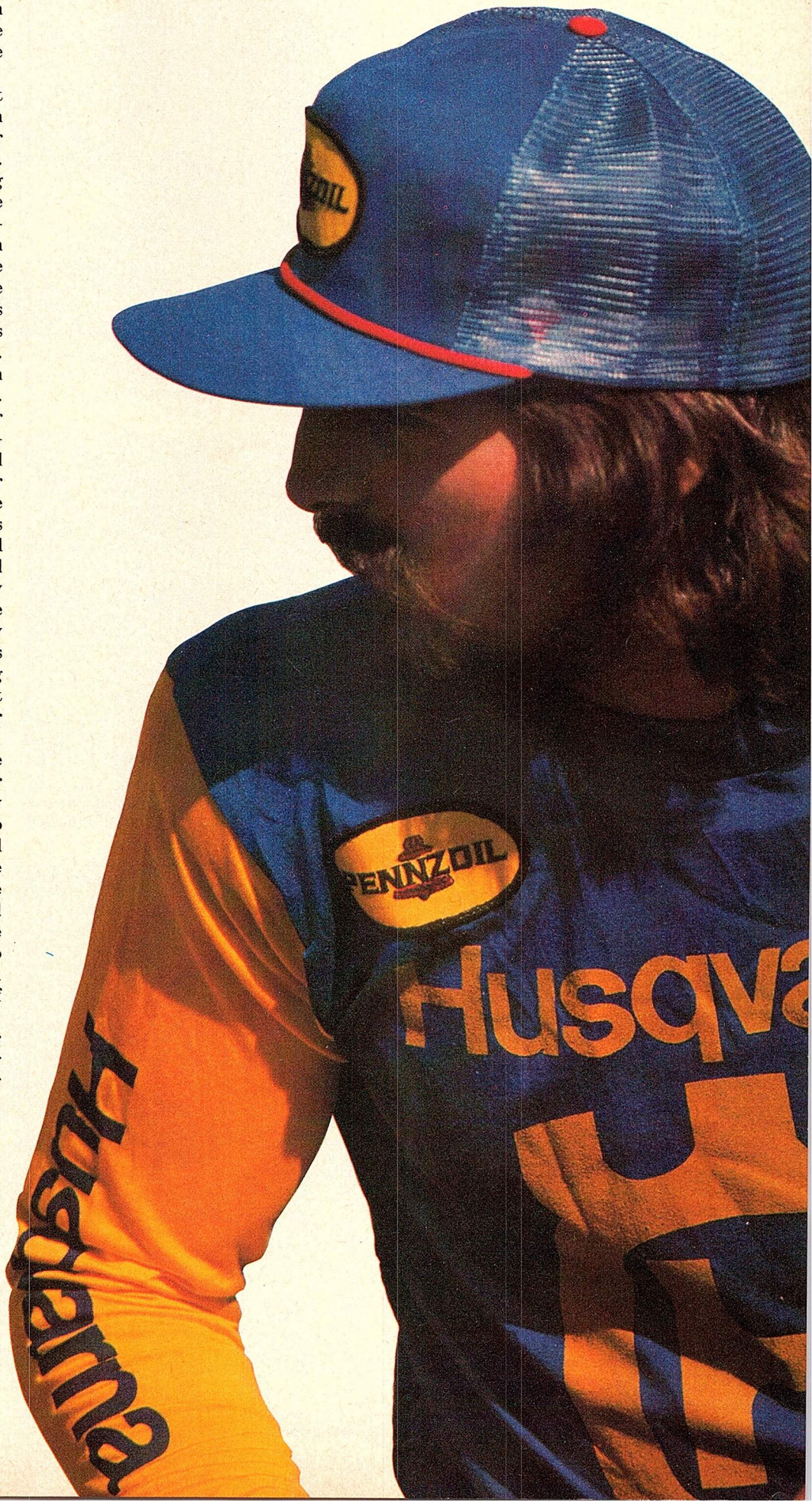
abundant bag, showed the locals a thing or two about throttle control and won both heats by a mile, eschewing the berms and making time on the treacherous inside.

After Billy Grossi lost the holeshot lead by crashing his brains out early in the first heat, Brad Lackey took over after a brief exchange with Jim Weinert. DeCoster, the while, had been working smoothly in the top five searching for the little ruts and bumps which offer precarious toeholds to contain his big Suzuki on the inside. With unerring precision he drew behind Lackey and pressed the leader for an opening. Lackey's pace was fast and his rhythm consistent and his line offered no opportunity for DeCoster. Instead the Champion had to rely on superior skill to put him in the lead. Studying Lackey's moves, DeCoster found the American's flaw on Saddleback's notorious Banzai Hill. Lackey had been jumping his 390 Husqvarna over the top and plummeting airborne to the bottom, clearing the dangerous ridges on the face of the slope. Cresting the hill only a few yards behind, DeCoster lifted his Suzuki over the little bump Lackey was using for a take-off and while Lackey sailed, the Champion lightly touched his rear wheel three times against the face of the hill, squirting power out each time, and sprang past into the lead going a good ten mph faster at the bottom.

From there DeCoster finessed the inside line, looking over his shoulder occasionally to make sure Lackey learned his lesson well and didn't fall too far behind. Handling his powerful machine like a delicate instrument, he fine-tuned each turn with subtle adjustments of his brakes, clutch and throttle. Delivering power to the slippery surface like a chef adding salt to the soup, DeCoster cruised to the finish at a leisurely pace, never taxing himself or his motorcycle.

In marked contrast, Gaylon Mosier had wired his Maico to the high banking and, feet up and wide open, was using every inch of track to catch the leaders. Setting a blistering pace, his pitch and slide line brought him side-by-side with Lackey in a drag race down the final straight to the finish. Lackey won second place but Mosier won the cheers of the local fans with his extraordinary ride.

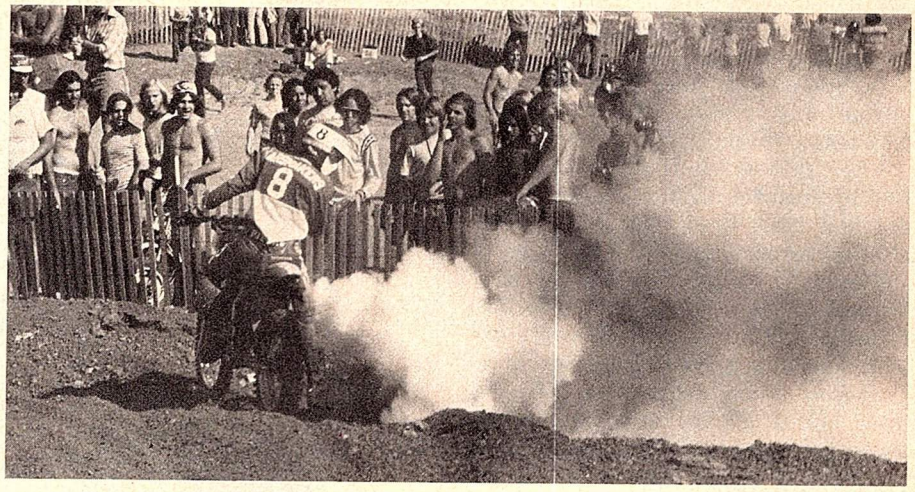
Kawasaki's near miss at the National Championship, Gary Semics, holeshot the second moto and put his speed and courage to work opening a big lead. DeCoster, back in sixth, knew he had to hurry if he was to catch the blazing



FIRST AMERICAN in the series and second overall was Brad Lackey. (Boudreau)

Semics. DeCoster respects Semics' talent and put in his fastest laps of the day pursuing the American. Just when DeCoster's efforts looked futile, Semics developed a flat tire and the Champion returned to an easier pace that would eventually put him in the lead.

Toward the end after Semics had dropped back, his Kawasaki teammate Jimmy Weinert moved up to challenge the Belgian. Undaunted, relaxed and confident, dancing from rut to bump on the hard surface, DeCoster used his churning rear tire like an artist's brush, painting Saddleback with sweeping strokes and crafty dabs. An over-the-shoulder look and a few squirts of roost signaled the end of Weinert's bid, and DeCoster wheelied away to victory on the day that was his to the finish.



A broken transmission shaft breached the crankcase on Pierre Karsmakers' factory Honda and delivered a quart of gear oil into the combustion process.

puyallup

Normally the weather in Washington State this time of year gets uncomfortable for the Trans-AMA, but our on-the-scene reporter Jimmy "The Greek" Gianatsis tells us that much to everyone's amazement, the sun came out for Puyallup's biggest race day of the year. Again it was the Americans who won the races but, as was shown before in the series, the consistency of Roger DeCoster paid off and he took the overall victory with a second and a fourth.

Tommy Croft won the first heat, bringing an early lead all the way home to the finish, but retired from the second moto with a broken front wheel. Gary Semics won the second race from holeshot to finish after a sour batch of fuel held him back in the first.

DeCoster's Dutch teammate Gerrit Wolsink dropped from a good finish in the first moto with a flat tire and lost a shot at the overall win when he failed to wear down Semics in the final heat.

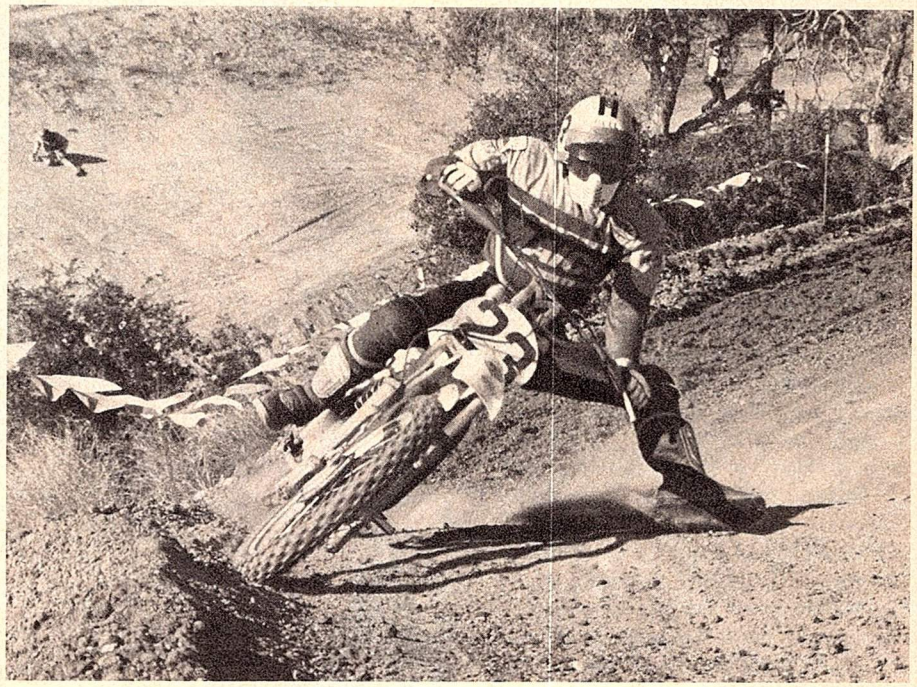
The most interesting event of the day was the appearance of the rumored open class Can-Am under local star Buck Murphy. Murphy showed the awesome power of the 360cc case reed induction Bombardier engine with good starts in both heats, but minor chassis problems kept him out of competition for the day.

Human factors caused problems for World Champion Roger DeCoster in the first moto when Honda-mounted Tommy Croft got away because of a signaling error from the Suzuki pits. After a pitched battle with Husqvarna's Brad Lackey, DeCoster thought he had the lead only to find out two laps from

Continued

Ellis cancels his second moto ride at 60 miles per. Last year he broke his shoulder at Saddleback but this year he fortunately walked away in one piece.

Danny LaPorte made it a complete sweep for Suzuki by taking overall victory in the Support class. (Holley)



Mosier wide-open on the outside lip. An outstanding ride in the first heat brought him alongside Lackey at the finish.

A flat tire kept Gerrit Wolsink from his first overall win. (Gianatsis)

the finish that the Honda shirt off in the distance was actually the front runner. A few hot circuits put him close to Croft but not enough to make the pass, and The Man had to settle for second. DeCoster's second moto was even worse, as his front wheel started coming apart and he had to nurse it in for a fourth place finish which, as it turned out, was enough for the overall victory. They say it takes more than normal luck to win a championship, and for the third time in the series, DeCoster proved it.

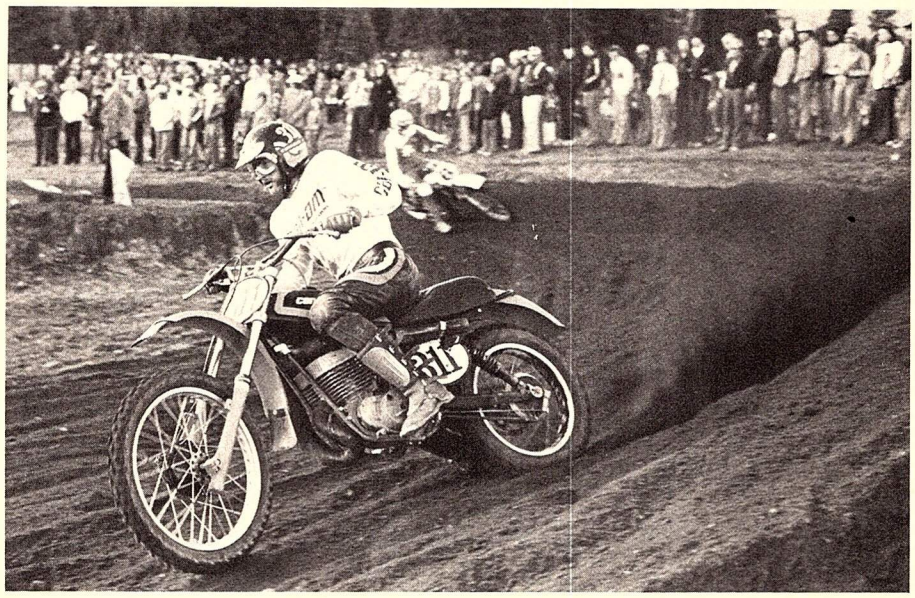
sears point

This event turned out to be the star of the series. Located in the hilly grasslands of Sonoma County in California's wine country, Sears Point Raceway is perfect terrain for international motocross. Designed and built by promoter Lee Moselle, the wide course offered a virgin, grass-covered surface rolling over four steep hills. Spilling out of a football field starting area, the riders faced giant uphills, steep, hairy downhills, tricky ditches, wide-open sweepers, a go-for-it jump and the most excellent traction of the series.

With this type of terrain, who else but Roger DeCoster would clean house? The Man was brilliant. Although Gaylon Mosier and Adolf Weil were enjoying a power advantage with their new AW400 Maicos on the steep slopes, and Englishman Graham Noyce was having his hottest race of the series, it was DeCoster who showed the way all day. The 31-year-old Belgian needed only a 13th place finish in either moto to clinch his third straight Trans-AMA series title, but he wasn't going to let this beautiful track go to waste letting someone else win. Picking them off one at a time from his sixth place start in the first moto, DeCoster was soon behind early leader Gaylon Mosier. Toying with him a few laps, DeCoster finally swept by and settled down to a casual pace that would maintain his lead to the finish.

Graham Noyce worked his way into second with standard Grand Prix consistency and rhythm and held that position, neither gaining nor losing ground on DeCoster. Noyce had shown less than his spectacular World Championship performance since joining the series in Michigan, obviously not liking the foul weather, or the easy tracks. But Sears Point turned him on and the young Maico factory racer was really enjoying his ride.

The ride of the day, however, came



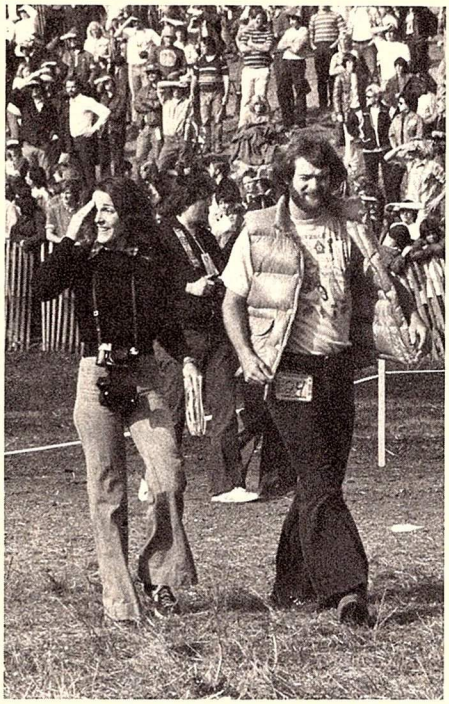
Buck Murphy debuted the prototype Can-Am 360. Awesome power but no cigar. (Gianatsis)

Croft chalked up his second moto win of the series. (Porter)

DeCoster and Lackey fought their best duel of the series, a battle which proved to be decisive for DeCoster. (Porter)

With one lap to go in the final moto, Englishman Graham Noyce salutes the crowd with a double click in honor of his second place finish behind DeCoster.

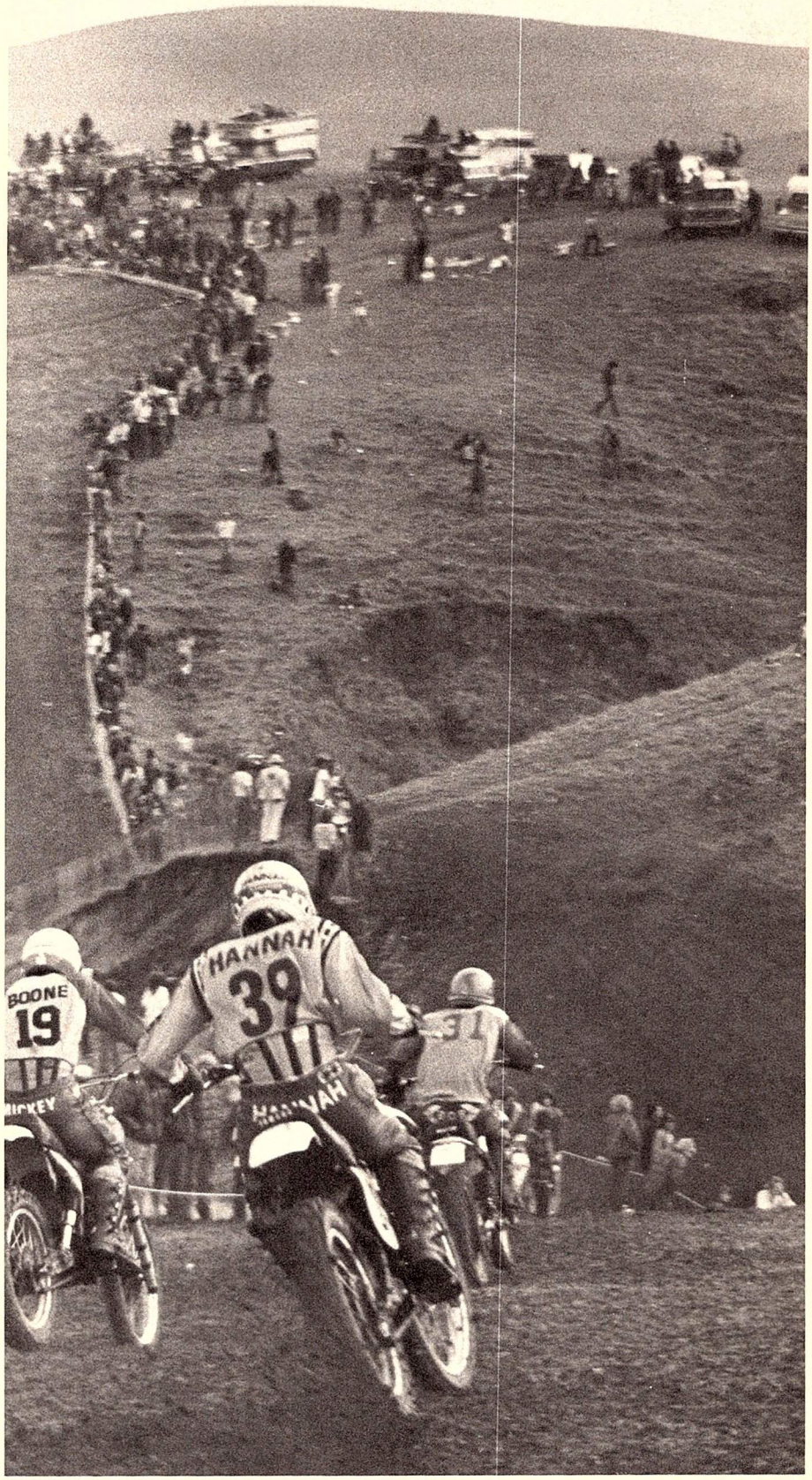
from American Bob Hannah. Suffering from a lousy start, Hannah also turned on to the track and started knocking off riders like a washerwoman taking in the laundry. By the end of the moto he had passed Weinert, Grossi, Karsmakers, Smith, Mosier, Croft, Wolsink and Lackey, and was breathing down Noyce's neck as they crossed the finish line. "Two more laps," said Hannah, "and I would have had him." As it was, he had to do it all over again as another bad start in the second heat set the stage for his second come-from-behind charge. This time he lost out on third to a very strong Gerrit Wolsink but finished third overall for the day.



With all his Bultacos in the shop for repairs, Jim Pomeroy enjoyed the Sears Point event as a spectator with a lovely companion.

Noyce gave the second race his best shot. Wresting the lead from a Mosier-Croft duel, the Englishman opened up a good lead when privateer Mosier faded and Croft bailed hard after a hairy downhill tangle with Adolf Weil. Croft was physically shaken and unable to continue after the mishap, and Weil's Maico was damaged beyond repair. With a second already going for him, Noyce held visions of overall victory 'til the sound of DeCoster's snarling Suzuki drew up behind. Noyce's line was excellent and the Champion had to look hard for a place to pass. Four times DeCoster made his move on the outside of a tricky right-hand off-camber, but Noyce kept his cool and never broke stride. On the fifth try, however, DeCoster was not to be denied and the Englishman relented, giving DeCoster

Bob Hannah posted two spectacular come-from-behind rides to score third overall against the Europeans.



FINISHING STRONG with a second at Sears Point and a near miss at Phoenix was England's Graham Noyce. (Boudreau)

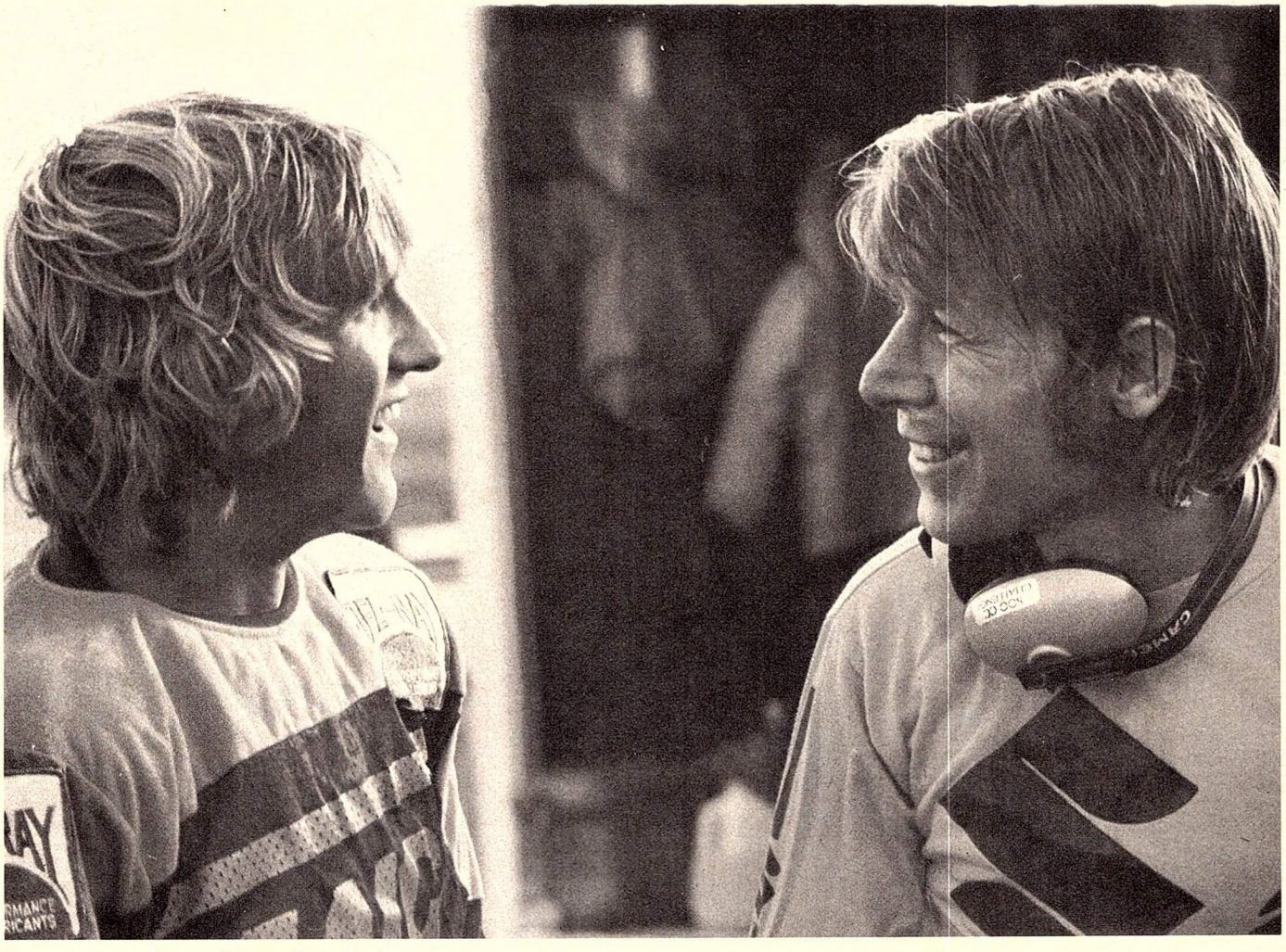
110

MOTOCROSS
ACTION MAGAZINE

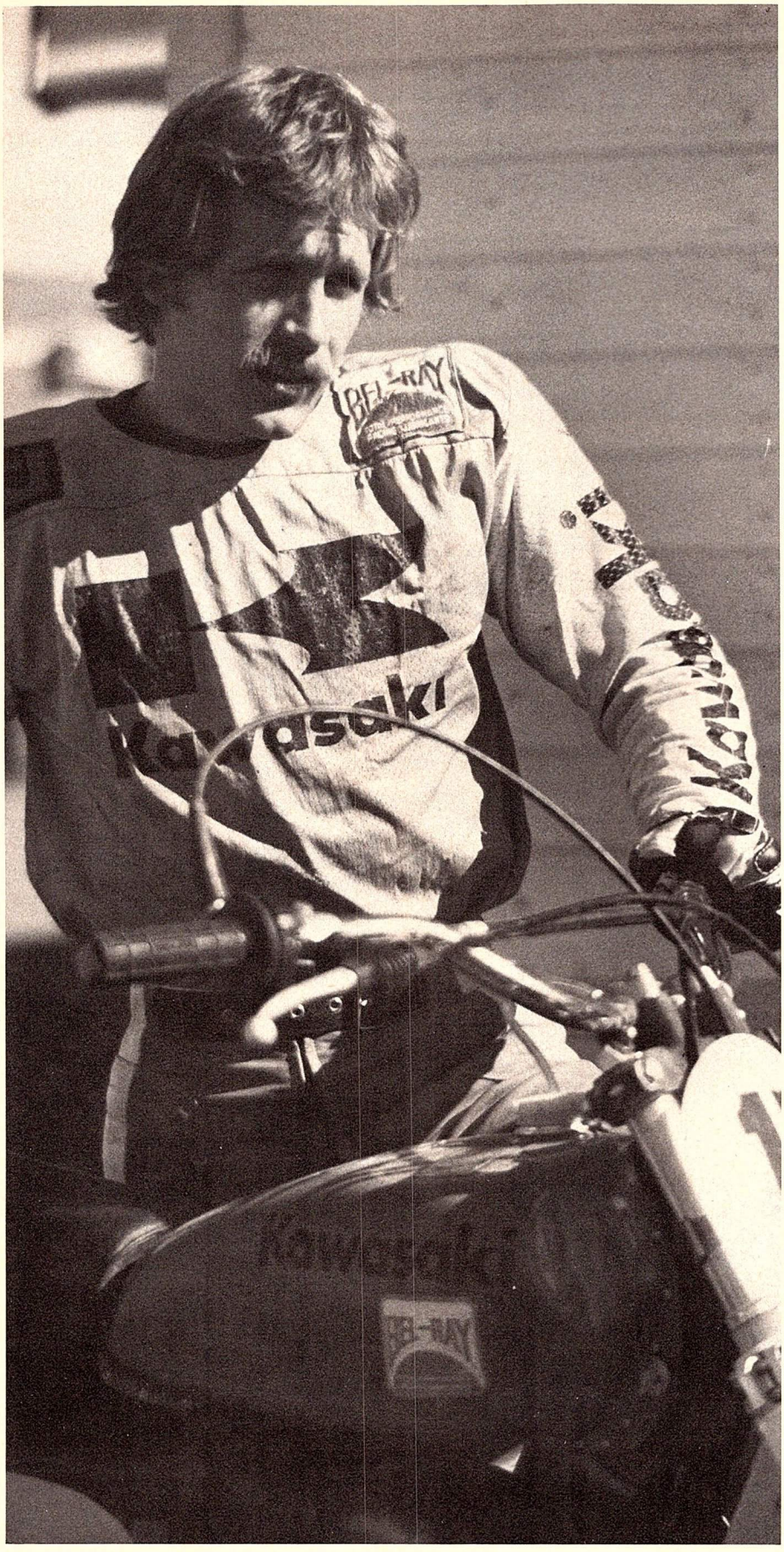
Privateer Gaylon Mosier had to do his own between-moto bike preparation after keeping the lead warm 'til DeCoster arrived in the first heat.

Marty Smith put in some hairy laps that surprised DeCoster, but a trip over the handlebars quelled his enthusiasm.

Three-time National Champion mechanic Bill Buchka puts the fine tune on Bob Hannah's rear brake actuator. Eventually he selected a bigger hammer to finish the job.

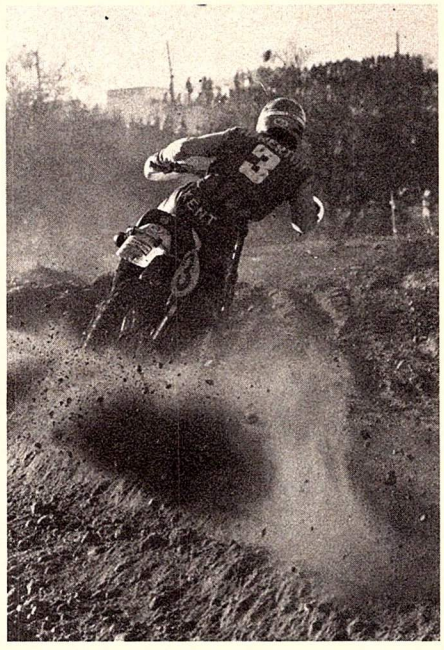


DeCoster and Noyce discuss their five-lap battle in the second moto. The two Europeans thoroughly enjoyed themselves on the Sears Point track.



Kawasaki factory rider Gary Semics dropped from third place in the standings when a rock broke his countershaft sprocket in the first moto.

easy victory. Two seconds against the greatest rider the sport has ever known was no shame for Noyce, and the teen-aged Maico pilot felt wonderful. On the last lap he broke his perfect rhythm for the first time in 40 minutes with a full-on, knees-out double cross-up over a road crossing going for nothing more than the joy of flight.



National champion Kent Howerton went nuts in the first moto, coming from dead last after a first turn tumble to sixth before a flat tire slowed his progress.

phoenix

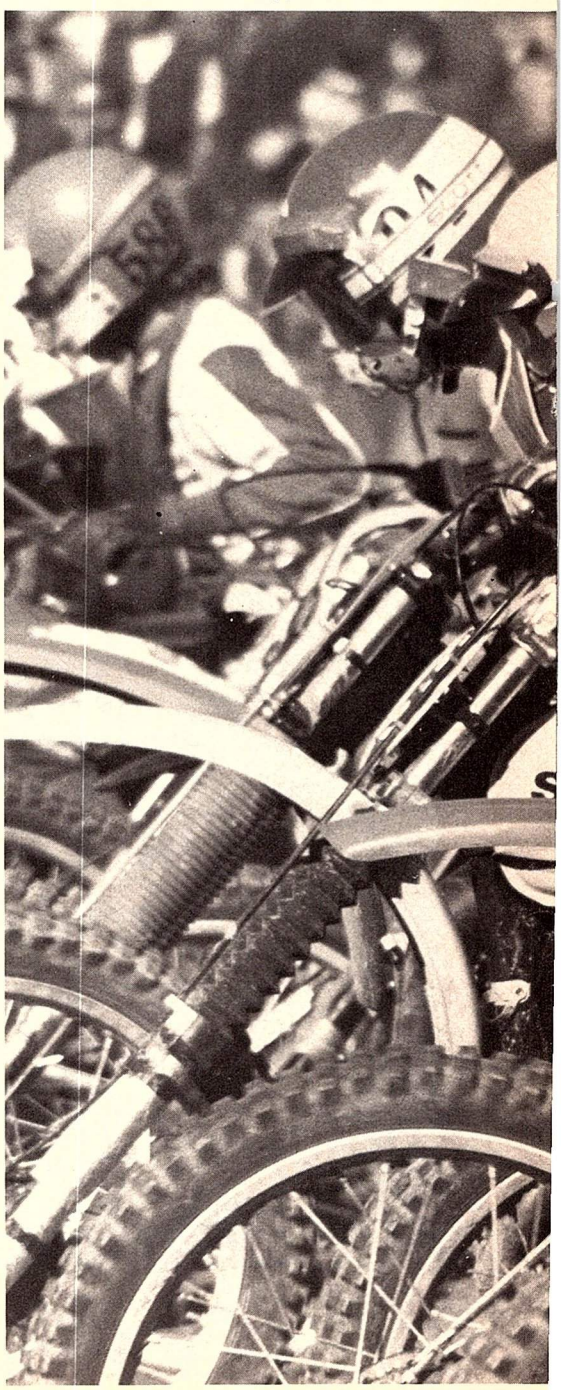
In all too obvious contrast to the previous week's race was the final event at Phoenix International Raceway. Terrain makes motocross, and frankly, Phoenix doesn't have any. The area of Arizona surrounding this city is desert, and there's not much you can do with the desert except have a desert race. Not to take anything away from the people who prepared the course, since there was little dust on the well-watered surface, and the flagmen were some of the best in the series. But motocross should be more exciting than watching endless drag races from turn to turn and riders spending more time dodging flying rocks than trying to win. What was interesting, however, was not the fight by Bob Hannah, Gaylon Mosier and Tommy Croft for the lead, but the subtle battles back in the pack for placement in the series' final standings. Brad Lackey, who came into the final race holding onto second place in the series by the skin of

Gary Semics (15) and Bob Hannah (39) lead the pack into the first turn.

Tommy Croft (21) holeshoots the second moto.

Bob Hannah snatched victory from the jaws of defeat after this crummy start in the second moto.

Action off the line in the Support class.

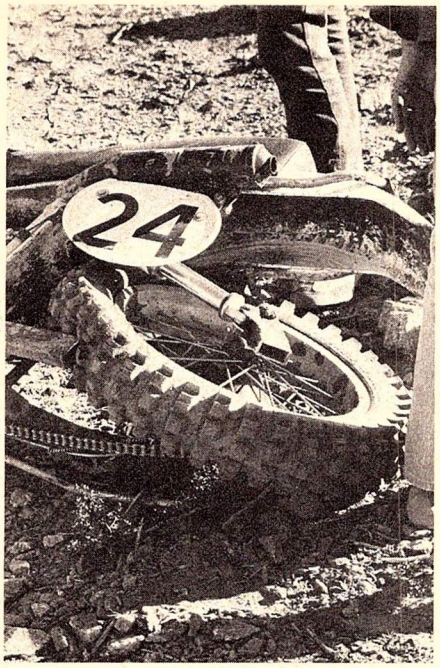


his teeth, couldn't get anything going in the first moto, but got a reprieve when Gary Semics, trailing Lackey by 25 points, broke a countershaft sprocket while running second. This tossed the ball to Jim Weinert, a point behind teammate Semics in the series, who finished sixth in that moto — bringing him to within striking distance of Lackey. Hungry for those points, Weinert chased down Semics for the lead in the second moto and bunted him into the snow fencing. Karma got the best of Weinert a few laps later when a dangling muffler got caught in his chain and tossed him over a berm right in front of the grandstands. Regaining his composure, The Jammer took another lap and bit it again in the same place, this time right in front of the TV camera. Meanwhile, Lackey's swingarm had broken in half and tossed Bad Brad into the pucker bushes, but the race wasn't over. Weinert worked his way back up to seventh place, but still needed a better finish to pass Lackey in the standings. In sixth place, however, standing between him and his goal, was Weinert's arch rival, Roger DeCoster. DeCoster had already clinched the title the week before at Sears Point and, showing obvious disdain for the track, was cruising at a safe pace and doing what he could to avoid the rocks.

Watching the race from the sidelines, Lackey would show himself to DeCoster and encourage the Champion to go faster, then hide himself behind a bush so that Weinert would not see him and thus fight harder for the points he needed. Seeing the situation, DeCoster set his pace so that there would be no way Weinert would get any more points that day. Repeatedly Weinert would move up behind DeCoster and again and again the Champion would give him a look and pull away, wreaking havoc on Weinert's concentration.

Meanwhile Bob Hannah was having his best race of the series. A holeshot in the first moto gave him a lead he held to the finish, but a poor start in the second heat set him up for one of the best come-from-behind rides of the series. One by

Spectators observe the various lines chosen by Mosier, Wolsink and DeCoster up a steep Sears Point hill.

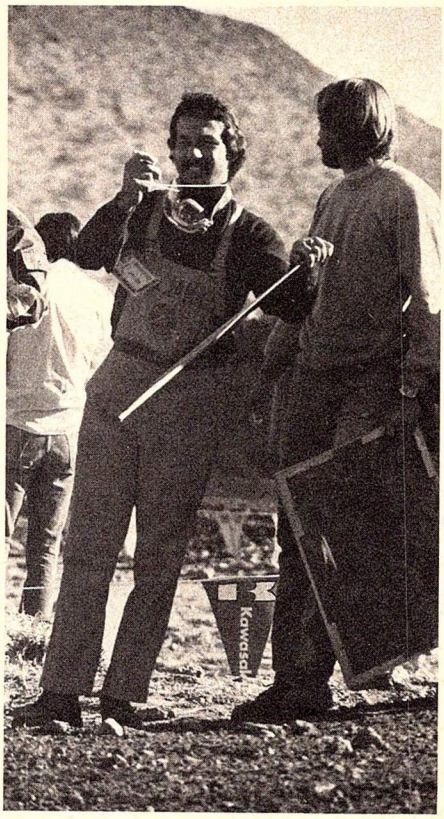


A broken swingarm almost ended Lackey's chances for second in the series.

Adolf Weil checks the adjustment of his front wheel while his lovely wife waits patiently for their return home to Germany.

Gary Semics led the second moto briefly until teammate Jim Weinert took over. (Holley)

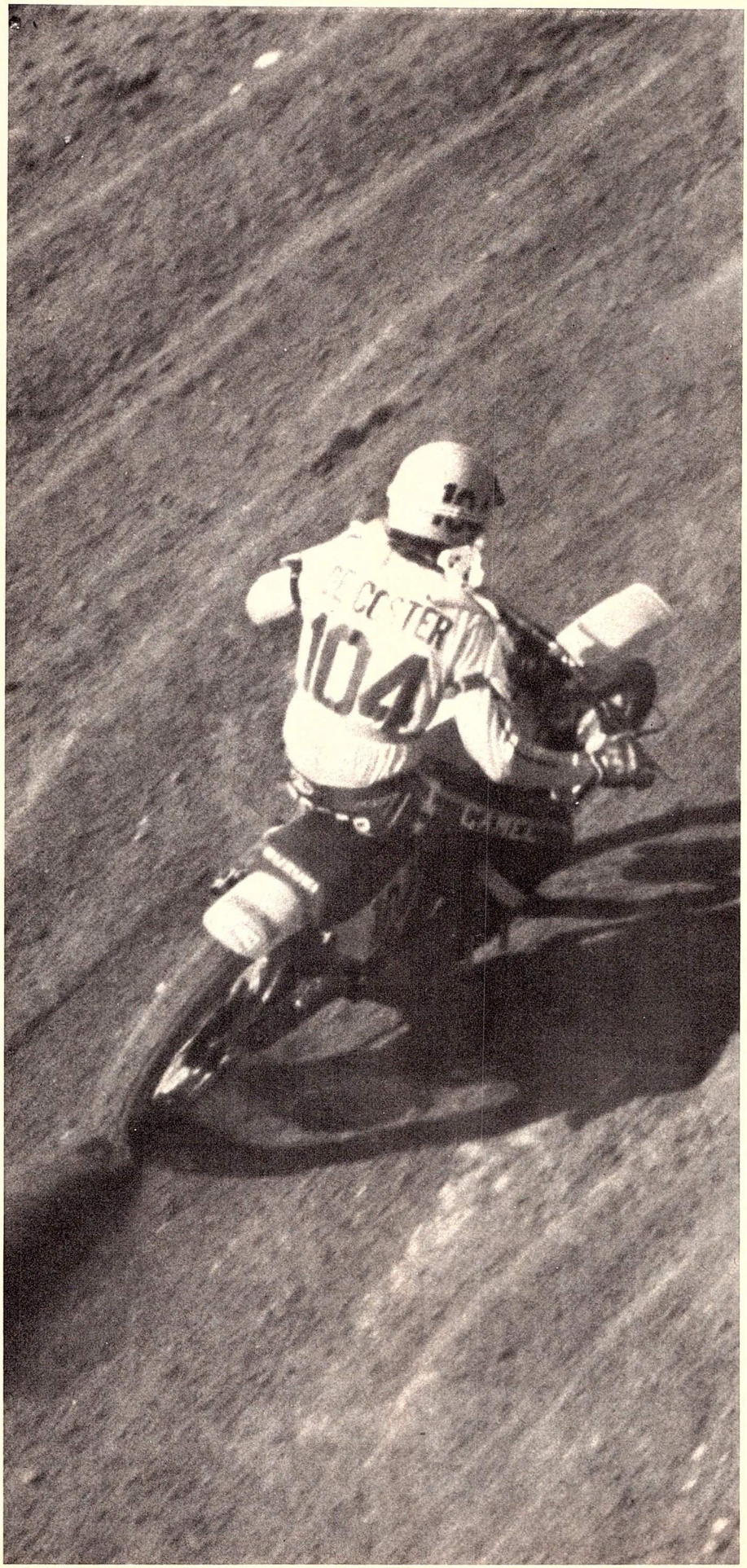
one he picked off the best riders in the world, including Weinert, DeCoster, Wolsink and Semics. With ten minutes to go in the race the battle came to him and Gaylon Mosier for the overall victory. Mosier picked up his pace and the two diced for a half-dozen laps before Hannah berserked it and got by. Even with victory assured, Hannah was not satisfied. Far ahead was Tommy Croft, who had inherited the lead from a stumbling Weinert early in the race, and Hannah wanted it. With two laps to go, Hannah set a blistering pace and reeled in the Honda rider. Holding it wide open on the final turn before the checkered flag, Hannah lunged at Croft, missing the double win by the length of a motorcycle at the finish. In final desperation Hannah had kicked Croft's rear wheel with his foot to score the



Jubilant mechanic Bill Buchka keeps tabs on his boy Bob Hannah. "This was a fine way to end a successful season," said Butchka after the race.

coup, but not the moto. Instead he took the day's overall victory followed by Gaylon Mosier's best ride of the series, and Croft in third by virtue of his last moto victory.

Winding up the series with wins by these two brilliant young Americans, Hannah and Croft, underscores the main contention by top international motocross observers: The Americans have arrived. Although still perhaps lacking the necessary experience to compete in World Championships, the Americans



have the talent and ability to beat the Europeans at their own game. In this series which saw seven World Championship riders in competition, only two managed to make the top ten while seven Americans filled the placings along with the Japanese champion, Akira Watanabe. Brad Lackey posted the highest finish ever by an American in the series, and American riders accounted for ten wins in the 20 motos and two overall wins. DeCoster is still the best by far, but from this point on, that's as far as it goes.

OFFICIAL RESULTS
SADDLEBACK PARK, CALIFORNIA

1. Roger DeCoster, Suzuki ..... (1-1)
2. Brad Lackey, Husqvarna ..... (2-4)
3. Jim Weinert, Kawasaki ..... (7-2)
4. Gaylon Mosier, Maico ..... (3-8)
5. Gerrit Wolsink, Suzuki ..... (5-9)
6. Gary Semics, Kawasaki ..... (4-11)
7. Tony DiStefano, Suzuki ..... (11-6)
8. Tommy Croft, Honda ..... (8-10)
9. Kent Howerton, Husqvarna ..... (6-13)
10. Graham Noyce, Maico ..... (10-12)

OFFICIAL RESULTS
PUYALLUP, WASHINGTON

1. Roger DeCoster, Suzuki ..... (2-4)
2. Gerrit Wolsink, Suzuki ..... (5-2)
3. Bob Hannah, Yamaha ..... (4-3)
4. Gary Semics, Kawasaki ..... (11-1)
5. Brad Lackey, Husqvarna ..... (7-5)
6. Gaylon Mosier, Maico ..... (6-7)
7. Tony DiStefano, Suzuki ..... (3-10)
8. Akira Watanabe, Suzuki ..... (15-6)
9. Graham Noyce, Maico ..... (14-8)
10. Pierre Karsmakers, Honda ..... (10-12)

OFFICIAL RESULTS
SEARS POINT, CALIFORNIA

1. Roger DeCoster, Suzuki ..... (1-1)
2. Graham Noyce, Maico ..... (2-2)
3. Bob Hannah, Yamaha ..... (3-4)
4. Gerrit Wolsink, Suzuki ..... (5-3)
5. Brad Lackey, Husqvarna ..... (4-5)
6. Bill Grossi, Suzuki ..... (9-6)
7. Marty Smith, Honda ..... (11-7)
8. Pierre Karsmakers, Honda ..... (10-9)
9. Gaylon Mosier, Maico ..... (12-8)
10. Akira Watanabe, Suzuki ..... (14-10)

OFFICIAL RESULTS
PHOENIX, ARIZONA

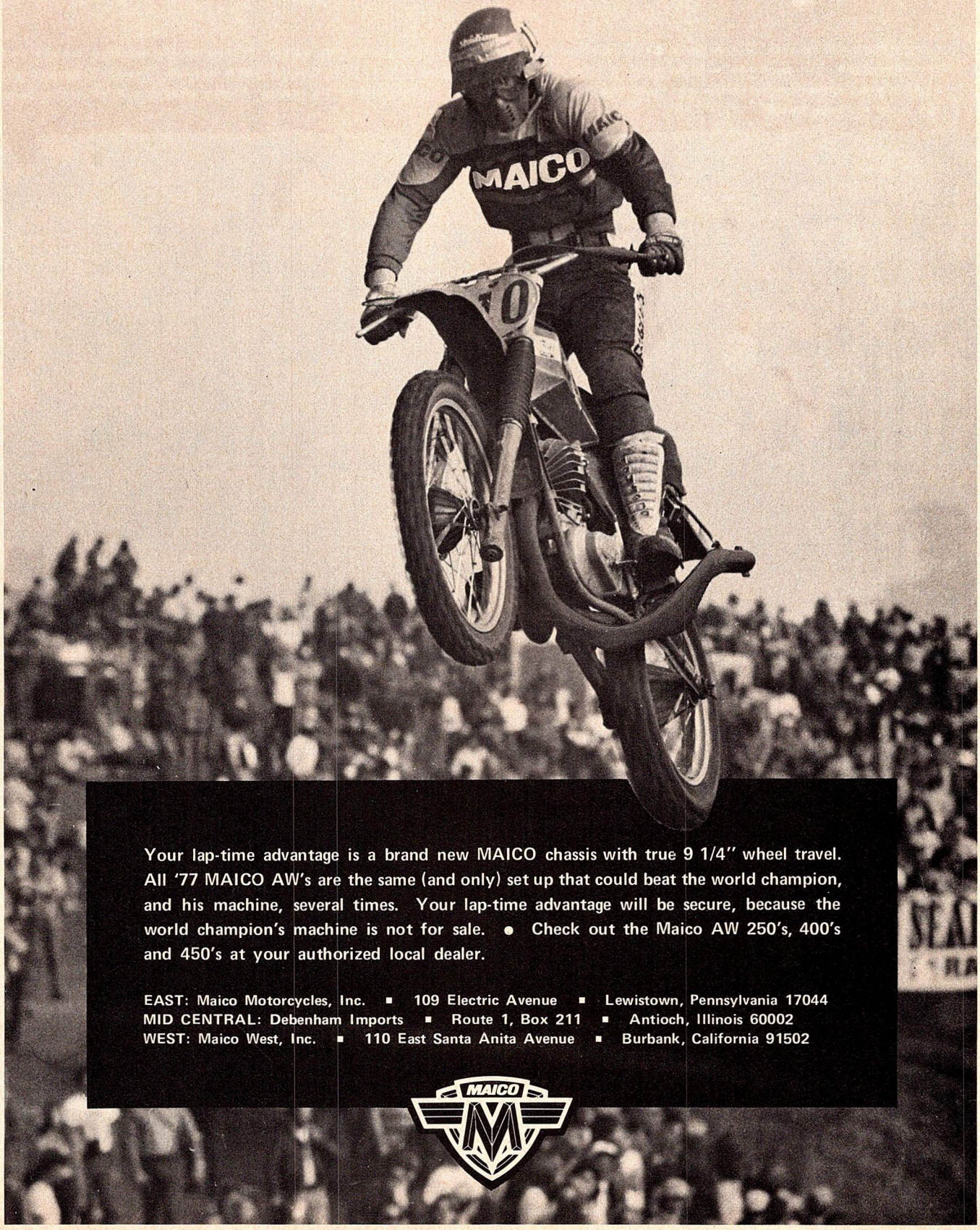
1. Bob Hannah, Yamaha ..... (1-2)
2. Gaylon Mosier, Maico ..... (2-3)
3. Tommy Croft, Honda ..... (9-1)
4. Gerrit Wolsink, Suzuki ..... (7-4)
5. Roger DeCoster, Suzuki ..... (5-6)
6. Jim Weinert, Kawasaki ..... (6-7)
7. Tony DiStefano, Suzuki ..... (10-8)
8. Bill Grossi, Suzuki ..... (8-11)
9. Kent Howerton, Husqvarna ..... (11-9)
10. Pat Richter, KTM ..... (14-13)

1976 — FINAL STANDINGS — TRANS-AMA INTERNATIONAL MOTOCROSS SERIES

Pos.	Name, Home	Points
1.	Roger DeCoster, Belgium	410.5
2.	Brad Lackey, Pinole, CA	279.6
3.	Jim Weinert, Laguna Beach, CA	274.9
4.	Gary Semics, Huntington Beach, CA	262.6
5.	Gerrit Wolsink, Holland	255.9
6.	Bob Hannah, Whittier, CA	254.3
7.	Marty Smith, San Diego, CA	229.3
8.	Akira Watanabe, Japan	219.3
9.	Tommy Croft, San Diego, CA	217.1
10.	Bill Grossi, Santa Cruz, CA	200.5
11.	Tony DiStefano, Morrisville, PA	198.4
12.	Gaylon Mosier, Huntington Beach, CA	191.9
13.	Kent Howerton, San Antonio, TX	179.5
14.	Rick Burgett, Sandy, OR	164.9
15.	Pierre Karsmakers, Mission Viejo, CA	148.0
16.	Pat Richter, Fortuna, CA	113.7
17.	Graham Noyce, England	106.0
18.	Sylvain Geboers, Belgium	97.0
19.	Adolf Weil, West Germany	86.5
20.	Mickey Boone, Winston-Salem, N.C.	79.6

Circle 10 on page 72

1977 MAICO = LAP-TIME ADVANTAGE



Your lap-time advantage is a brand new MAICO chassis with true 9 1/4" wheel travel. All '77 MAICO AW's are the same (and only) set up that could beat the world champion, and his machine, several times. Your lap-time advantage will be secure, because the world champion's machine is not for sale. • Check out the Maico AW 250's, 400's and 450's at your authorized local dealer.

EAST: Maico Motorcycles, Inc. ▪ 109 Electric Avenue ▪ Lewistown, Pennsylvania 17044
MID CENTRAL: Debenham Imports ▪ Route 1, Box 211 ▪ Antioch, Illinois 60002
WEST: Maico West, Inc. ▪ 110 East Santa Anita Avenue ▪ Burbank, California 91502

MAICO

bilge pump technology

H^2O + WFO

The pro riders tell us this: If you have a choice between mud and water, go for the water. Water on the surface means firm ground underneath, but mud can only be mud. At the St. Peters Cycle World U.S.A. Trans-AMA near St. Louis, Missouri, the riders had a good opportunity to try out their theories on the biggest water hole of the series. These photos will give you some idea how most of them fared.

STANDARD EAST COAST METHOD: Cool, calm and collected Jim Weinert uses "Damn the torpedos, full speed ahead" approach until the hood of his rain slicker fills up with water and strangles him to death.

WASH OUT IN THE WASH OUT: "Ach mine goodness," thinks West German star Adolf Weil, "I'm needed der U-boat for this splashengorp."

SURFACE! MAN THE DECK GUNS! Pierre Karsmakers looks like the Beast from 20,000 Leagues as his factory RC Honda leaps out of the water like a delirious Labrador retriever.

=WOOF

Trans-AMA stars go berm surfing in the Missouri mud

Photos by Tom Riles

WET YOUR WHISTLE METHOD: 250 Champion Tony DiStefano flings his tongue out to protect lower lip. Good for when you're thirsty, but don't eat the yellow mud.

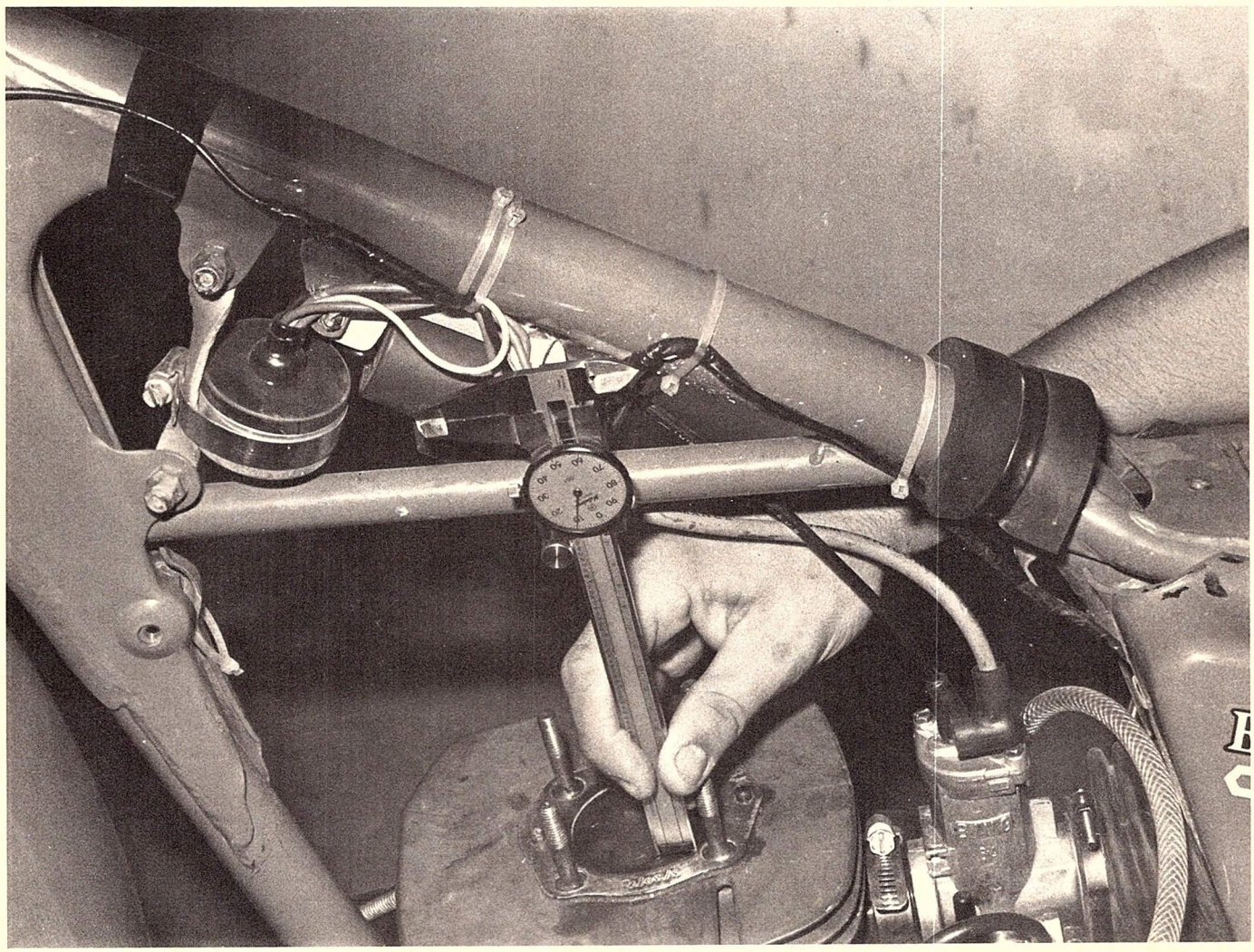
WHEELIE OR DROWN: Factory Kawasaki ace Gary Semics uses full rear body English to keep the front end up just another two feet before Niagara Falls time.

ABANDON SHIP, SHE'S GOING DOWN: Bultaco privateer Kenny Zahrt tries the power of concentration to revive his drowned engine. Sorry, Kenny. Nothing short of mouth-to-carburetor artificial respiration will bring back your soggy 'Sang.

CYLINDER HEADS– HOW TO MAKE THEM WORK RIGHT

By E.C. Birt

DIALING IN DECK HEIGHTS AND COMPRESSION RATIOS. PART ONE OF TWO PARTS



1. Measure the distance from the top of the piston adjacent to the cylinder wall to the top of the cylinder.

Back a few months ago, we took a D.G. racer with one of Gary Harlow's proto water-cooled heads out to the local track and proceeded to do a test on it. If you read the article, then you are aware that the report of the water-cooled engine came out with an A+. D.G. never went into production with their water head because of other projects that they had at the time.

Shinobi Research, at this same time, was getting ready to get into full swing on building water-cooled heads for all of the small-bore bikes. As the first Shinobi heads came out of the molds, some of them were sent to different magazines for testing.

When I received mine from them and ran a dyno test on the head, I was more than a little pleased. Not because of the horsepower gain that I got, but the lower engine temperatures that were recorded.

Water-cooling motocrossers would open up a whole new ball game for the tuners everywhere. Now it was possible to do things with compression ratios that were next to impossible with free air engines.

In today's racing bikes there's a very small difference between first and fourth place when the checkered flag comes out. Building a top-notch machine for racing has become an art of perfection. The day of grinding a millimeter out one way or the other and trying it is gone forever. It's like the high button shoes of yesterday; it worked until a better way came along.

Deck height, compression ratios, head configurations, squish bands and cooling capabilities all add up to just how much horsepower your engine will safely put out.

In the past years, I have found that there is no hard, fast rule of one compression ratio being best, or one shape of head being best for all engines. Each engine is different and has its own desires. I have been able to narrow it down somewhat to a standard that will get you started in the right direction and give you a working system.

The first and most important point is the overall deck height from piston edge to cylinder head (squish surface). This squish surface starts right at the edge of the piston at the cylinder wall and stops at the point of the head pocket.

Let's look at this in stages and you will see why it is so important and how to set it right.

As the piston comes up on its up-stroke and shuts off the exhaust port, three things will govern how hard the piston will make its return trip down the cylinder and how much force is applied to the rear wheel.

As the piston moves up the cylinder, your favorite brew of pre-mix is being compressed into a very tight package. If everything goes like it's supposed to, most of it will be pressed into the center of the head. Just before the piston gets to the top of its stroke, the spark plug fires and ignition takes place.

At the outer edge of the piston, the squish band compresses the gas down tight so that it will become a very thin layer and will resist firing. This thin layer of fuel that is not fired draws the heat out of the combustion chamber and prevents detonation. If the squish band is too far from the head, the end gases ignite and this is what causes detonation. If you let the engine run very long doing this, it will soon destroy itself.

Sometimes you can't hear detonation when you're riding your bike, but one of the things that will tell you quicker than anything else is to inspect your engine (cylinder head surface and piston crown). There may be little potholes around the outer edge of the head caused by detonation. What it is doing is burning the surface of the head away.

That's the secret of the squish-type cylinder head. It concentrates the main charge in a tight pocket under the spark plug and spreads the pre-mix at the cylinder bore edges too thinly to be heated to the point of firing. These "end gases" do not burn with the main charge. They are only partly fired as the piston moves downward from TDC and releases them from their cooling contact with the surrounding metal surfaces. Right here is where horsepower runs out the back door, for pre-mix that does not burn contributes nothing to horsepower.

If you do not have enough deck height, however, you stand a good chance of the rod growing enough so that the piston kisses the head. If this happens, it will very shortly drive the bottom end bearing rollers into flat-shaped bearings, and they don't roll very well in this shape. If the piston hits the head hard enough, it can yank the wristpin right out of the bottom of the piston. Needless to say, the engine instantly turns into a hunk of rattling iron.

Now you may be saying to yourself, my motorcycle is stock and this couldn't pertain to me or my bike. Wrong. I have yet to see my first stock motorcycle come through the shop in the past ten years that had the proper deck height from the factory. Wait a minute, I stand corrected. Penton with their KTM engines is one that comes through with packing gaskets under the cylinder, which sets the deck height at the proper measurement. Puch, too.

It all boils down to no matter what kind of bike you have, it's worth checking the deck height to be sure it's right. You may have just purchased one of the many accessory heads that are on the market. It also needs to be checked for proper deck height and compression ratio.

When the factory built your motorcycle, they probably made 20,000 more just like it. When they cast the head, they had to be sure that there was enough deck height so the piston wouldn't hit the head no matter how loose the bottom end got, and that the compression ratio was low enough to give long engine life.

The head builders that are making heads for replacement units have a problem on their hands because they, in turn, have to build the head that you buy from the local bike shop with this same degree of insurance in it.

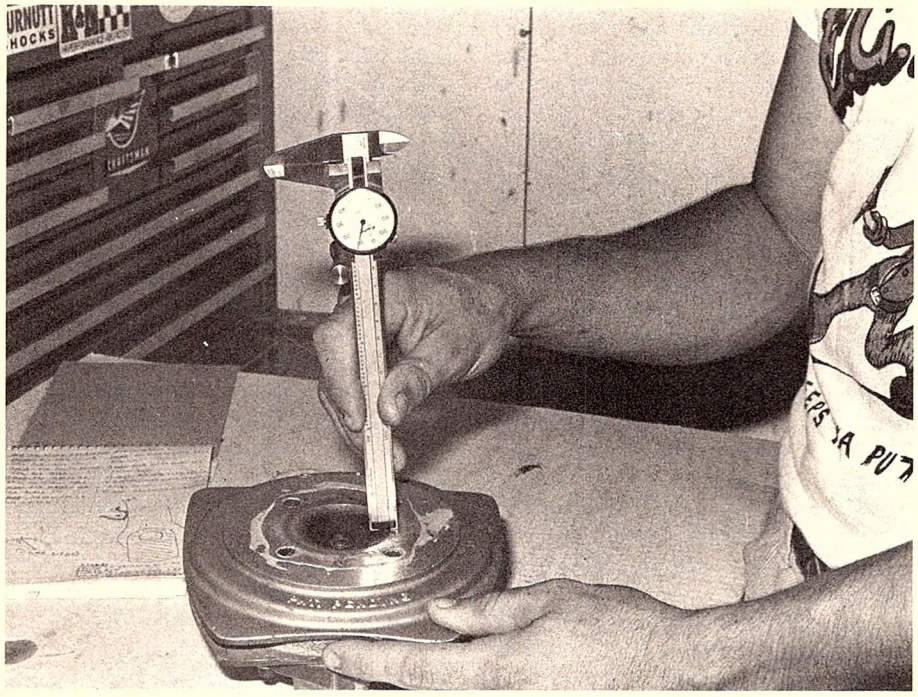
Compression ratio of your engine is the other big factor in horsepower, but that is another ball game. Before we play it, we have to set the deck height first.

If your motorcycle has been run for a while, you are ready to go to work. If you have just been down to the local motorcycle shop and purchased the new hot tip head for your scooter, put it together first and run it so that the gaskets will become compressed to the thickness that they get when run in. Ride the bike for a while if you wish, but don't get it dirty. If you do, wash it before you start taking it apart.

After you have the head off, if it's been some time since you have decarboned the engine, remove the cylinder and with fine sandpaper, polish the top of the piston and remove the carbon buildup that is on the piston crown.

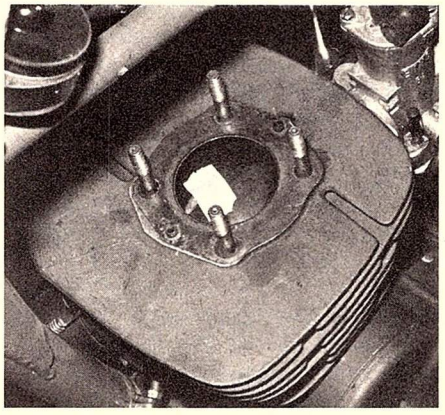
Removing this carbon buildup from the crown of the piston brings up something I have seen done by riders and mechanics that is one of the biggest mistakes that you can make. NEVER, NEVER remove the carbon from the sides of the piston!!! Make the top of the piston shine like a silver dollar, but keep your fingers and sandpaper off of the sides of the piston. Carbon that is on the sides of the piston is a buildup that has formed from the engine running, and the only reason that it is there is because there were low spots in the piston. This carbon deposit on the sides of the piston has shaped the piston to the bore of the cylinder. The moment you remove this carbon, you have just made your engine loose, and now you will have a very noisy engine and an excess of blow-by that will cause you a loss of horsepower.

There are two ways of coming up with the deck height in your engine, and the way I like best is to measure everything: (1) Take your dial indicator and find

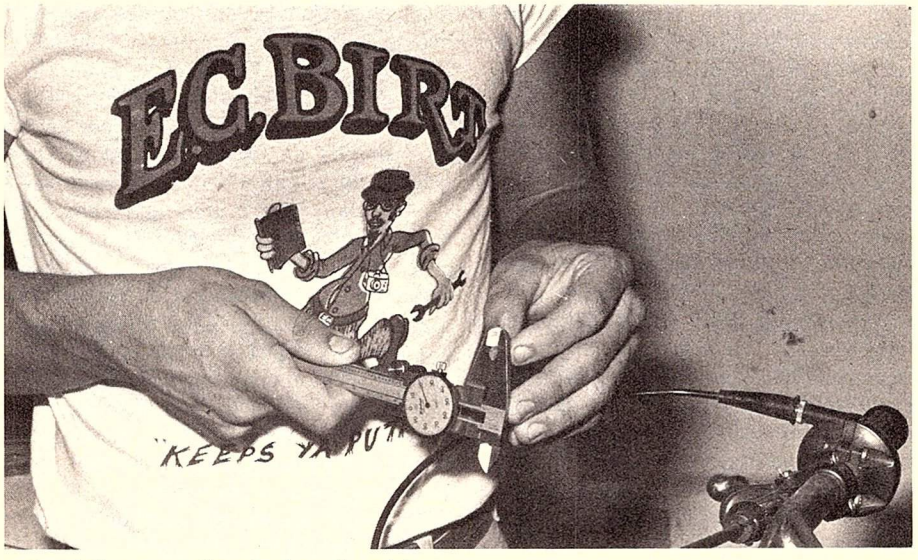


2. Measure the distance from the cylinder head mating surface to the outside edge of the squish band.

3. Measure the thickness of the head gasket.



4. A piece of clay taped to the piston crown will determine the deck height after the cylinder head has been installed and the engine kicked over.



5. Carefully remove the clay from the piston crown and measure its thickness.

TDC. (2) With your vernier calipers, measure the distance from the top of the cylinder to the edge of the piston, right at the cylinder wall. Write this measurement down. (3) Measure the thickness of the head gasket and write it down. (4) Set your calipers right at the edge of the head on the gasket surface and measure the depth of the step to the squish band and write this measurement down.

Now you have three measurements, and if you add them all together, this will give you the total deck height.

As an example, on the Honda, I had .010 from piston to the top edge of the cylinder. The head gasket was .020 thick and this measurement is recorded on the file of the motorcycle because from here on out, the head gasket will have to be this thickness when it is replaced. This is important. The Shinobi water-cooled head for this motorcycle came with .010 relief in the head. Adding all three measurements together, we come up with .040-inch. Now we know what we have in the engine, but what are we supposed to have?

I may get some disagreement on this, but here is what I have found comes out the best for the engines that I build:

On engines that are 100cc and smaller, set the total deck height at .025. On 100cc through 125cc, it should be .030; from 125cc to 175cc, it should be .040; 175cc through 200cc is .045; 250cc to 360cc is .050; and anything bigger than a 360cc engine should be .060, which is about what you need because the bigger the engine bore, the more the rod will grow.

These measurements assume that the engine bearings, rod and all are in perfect shape. If your engine is sloppy, give it a touch more clearance. Better yet, fix it, because you will lose horsepower with bad bearings and that's what this is all about.

OK, so my head came out with .040 total deck height, and I want .030. For this engine, it is only a matter of machining the relief off of the head and it will be just right.

Let's look at another example, and say the engine had .040 from the edge of the piston to the top of the cylinder at TDC. The head gasket is .020 and the relief is .010. What do you do now? In the case of the Honda, there is an optional head gasket that is .010 thick that you could use, but there is no reason to. Do it this way: Machine the head off until there is no relief left, then turn .010 off of the top of the cylinder.

For a head gasket, go down to the local paint store and find the silver paint

Continued on page 71

Circle 11 on page 72

CH THE NAME OF 1977! RIDE WITH THE BEST....

Attention MILLER MANO Customers!!!!!

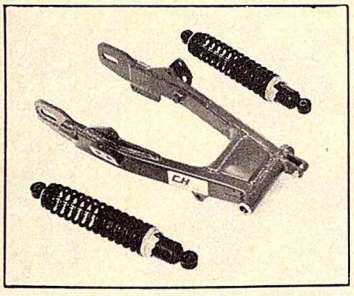
As of December 1, 1976 CH Performance Products bought out Miller Mano Specialties

All Miller Mano products are now available through CH!!

ORDER NOW!!

CH NEW PRODUCTS FOR '77

Aluminum Swingarms and S & W Freon Shocks or Gas Girlings



FOR:	
CR125	209.95
RM80	199.95
RM100-125	209.95
RM250-370	229.95
YZ80	199.95

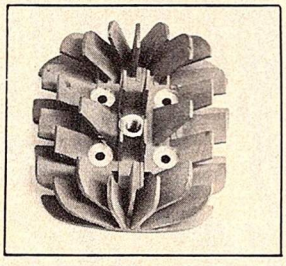
RM 80 Engine Kit

Consists of:
Ported Barrel
Porky Head
28mm Mikuni
Pro Up Pipe

ALL for only $229.95

All Items Available Separately

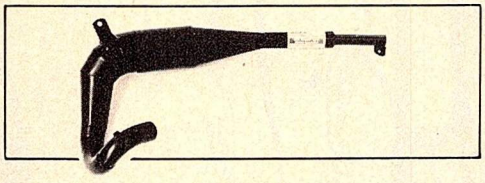
Porky Heads: Better Cooling & Better Power



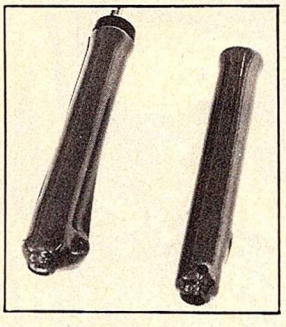
73-75 CR125	77 RM100	
76-77 CR125	76-77 RM125	76 RM250
77 RM80	YZ80	77 RM250
75 RM100	YZ100	$69.95
75 RM125	YZ125	

ALL $59.95

CH Up Pipes



73-75 CR125	64.95
76-77 CR125	79.95
77 RM80	64.95
76 RM100	79.95
77 RM100	79.95
76-77 RM125 A & B	79.95
76 RM250	84.95
77 RM250B	84.95
76-77 RM370	84.95
74-77 YZ80	64.95
75-77 YZ100	79.95
76-77 YZ125 C & X	79.95
76-77 YZ250	84.95



CH Fork Skins: New Skin Tight

Cover for your Fork Legs
Super protection and factory looks

FOR		
RM80	YZ80	
RM125A	73-75 CR125	ALL $10.95
RM125B	76-77 CR125	

Pro Down Pipes available
Most Models $59.95

NEW '77 CH CATALOG COMPLETE WITH THE FORMER MILLER MANO LINE $2.00.

HOW TO ORDER: Send 25% deposit or send prepaid. Prepaid: Add $2.50 for shipping. Personal checks add 2 weeks to delivery.

CH Performance Products

7633 Winnetka • Canoga Park 91306 • (213) 998-7250

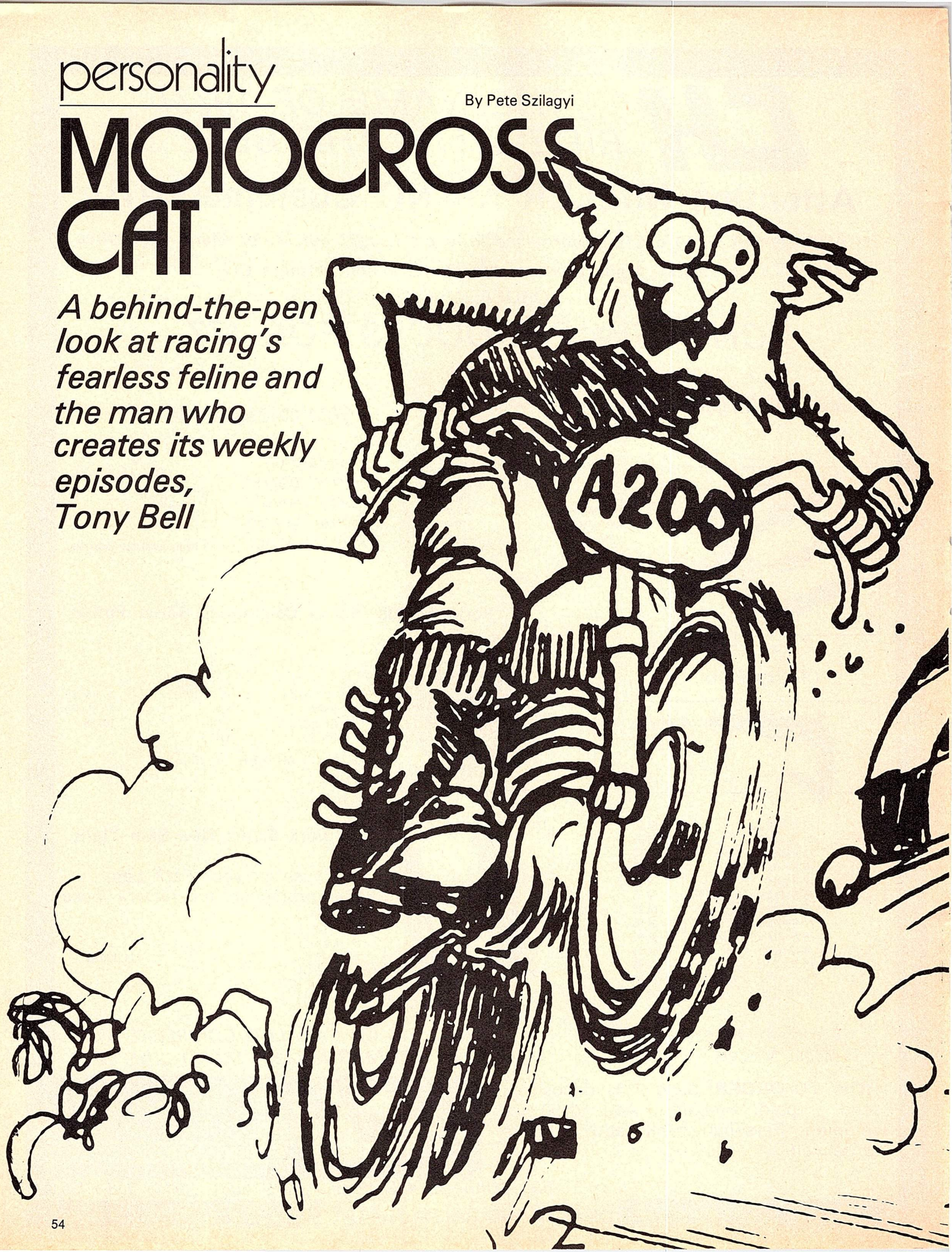
DEALER INQUIRIES INVITED

personality

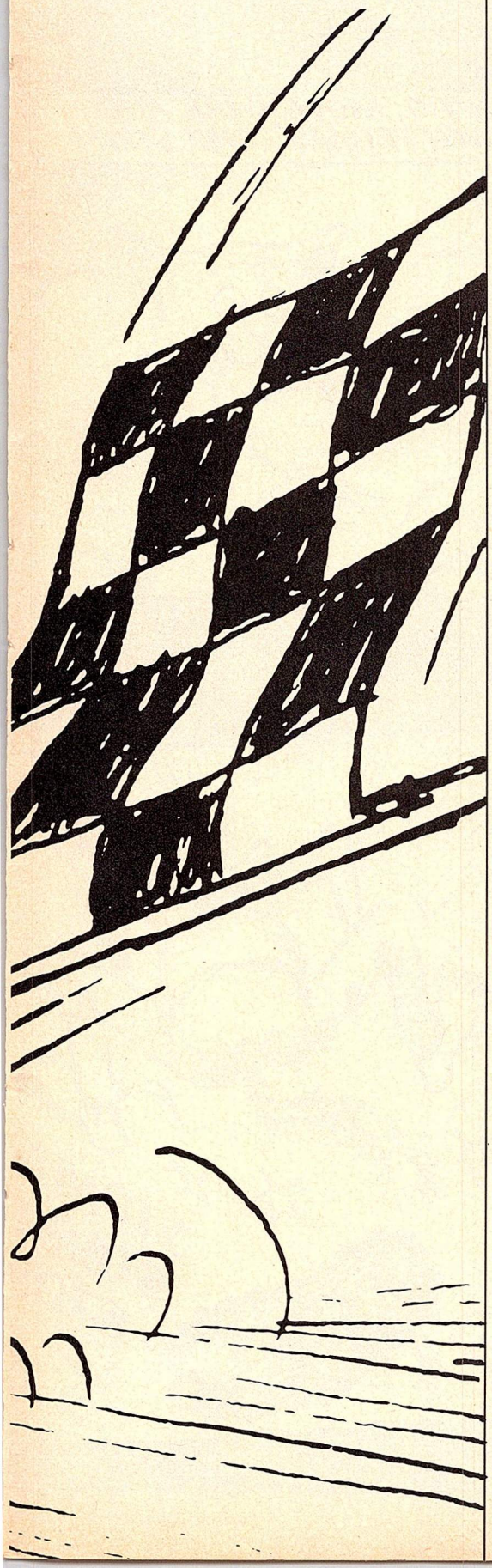
By Pete Szilagyi

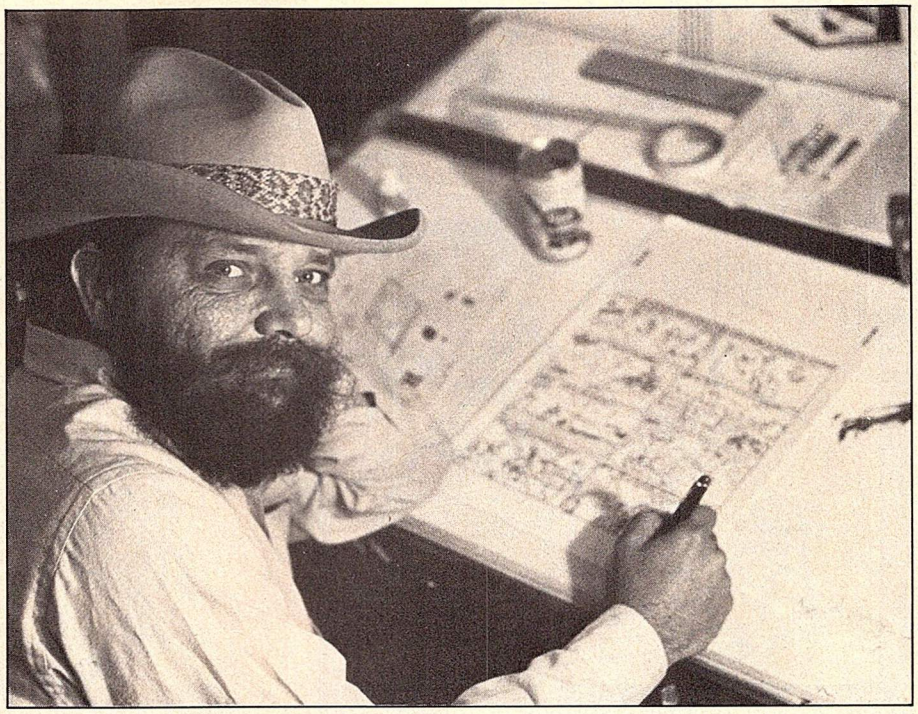
MOTOCROSS CAT

A behind-the-pen look at racing's fearless feline and the man who creates its weekly episodes, Tony Bell



Motocross Cat appears courtesy Cycle News.





Tony Bell

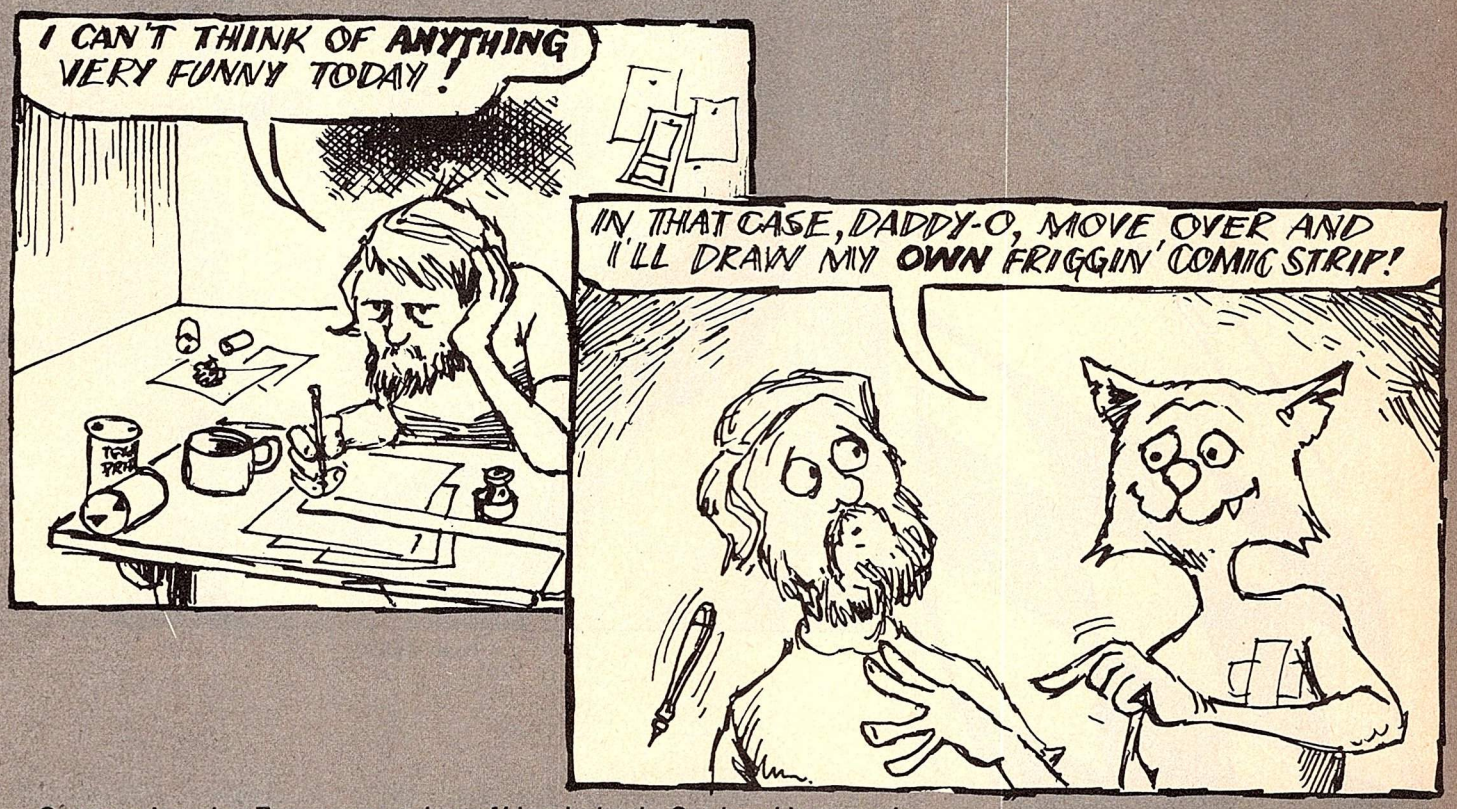
Every Tuesday morning, Tony Bell walks to the studio/workshop behind his Austin, Texas, home, eases in behind a large drawing table, pins down a fresh sheet of paper and pops open a Pabst Blue Ribbon. And with a pen, begins to fill the blank page. When starting, he may only have a germ of an idea for this week's comic strip, but by the time he mulls and scratches his way down to the final panel, it is probable that his cartoon character, Motocross Cat, will have succumbed to his own feline foolishness. Tony must decide the scenario every week and select the instruments and circumstances surrounding the Cat's demise, whether they are a flat tire on the last lap or an attack by a man-eating grizzly bear. Occasionally, when in a generous mood, he allows Motocross Cat a taste of victory, perhaps a win in the mini-bike class or a date with "Brad Slackey's" girl, but never will the Cat achieve his foremost goal, a full "Hastevarna" sponsorship.

When he finishes the strip three to five hours later, it is mailed to *Cycle News*, sole proprietor of the publishing rights to Motocross Cat, who will print the strip in both its West and East editions in about five weeks from when it was drawn. After four years of weekly strips, Bell has accumulated quite a stack of Motocross Cats, all numbered and sorted in preparation for an upcoming book, *Motocross Cat Comics*. When he drew the first Cat strip as a favor for a race poster, he had no idea his slightly disheveled-looking motocross-riding kitty would bloom into a first class comic character.

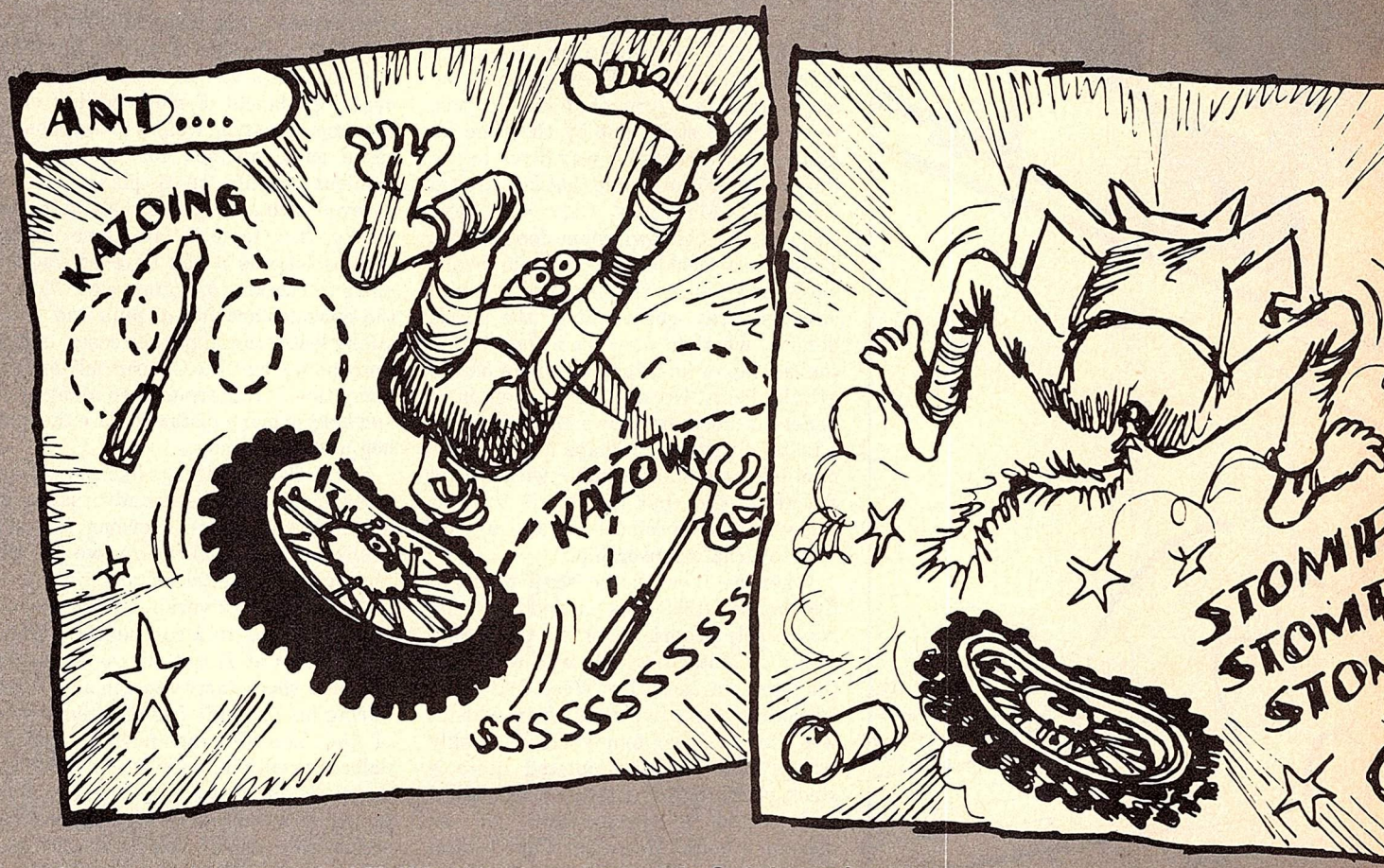
Over 250 Motocross Cat strips have been created, but Tony still hasn't run out of ideas. He has worked a flexibility into the Cat's format that allows it to deal with facets of motorcycling other than motocross, as well as to occasionally serve as a soapbox for the drawer's opinions on life on a planet that is covered with much more than motocross tracks. Any topic is fair game for the Cat, as long as it can be even vaguely made to pertain to motorcycles. Most of the episodes are full of nuts and bolts, stinky leathers and plaster casts, but, as Tony points out, the Cat can only endo so many times, centerpunch so many trees and hole so many pistons before the strip begins to get boring.

So the Cat does things like sell his soul to the devil, squashes an adversary with a falling safe, gets a German MX star drunk on tequila, blows up two Commie baiting ISDT spectators, and is hit in the face with pies. Overall, Motocross Cat can be likened to a continuing morality play. The Cat is not above employing illegal or shady tactics to win a moto and during his brief life has violated several of the Ten Commandments, but his dalliances with immorality end in failure. A couple of years ago, the Cat even pulled off a bank heist wearing a paper sack with eyeholes as a mask. The ploy failed, as did his attempt to steal a new Hastevarna out of the Baja 1000

MOTOCROSS CAT

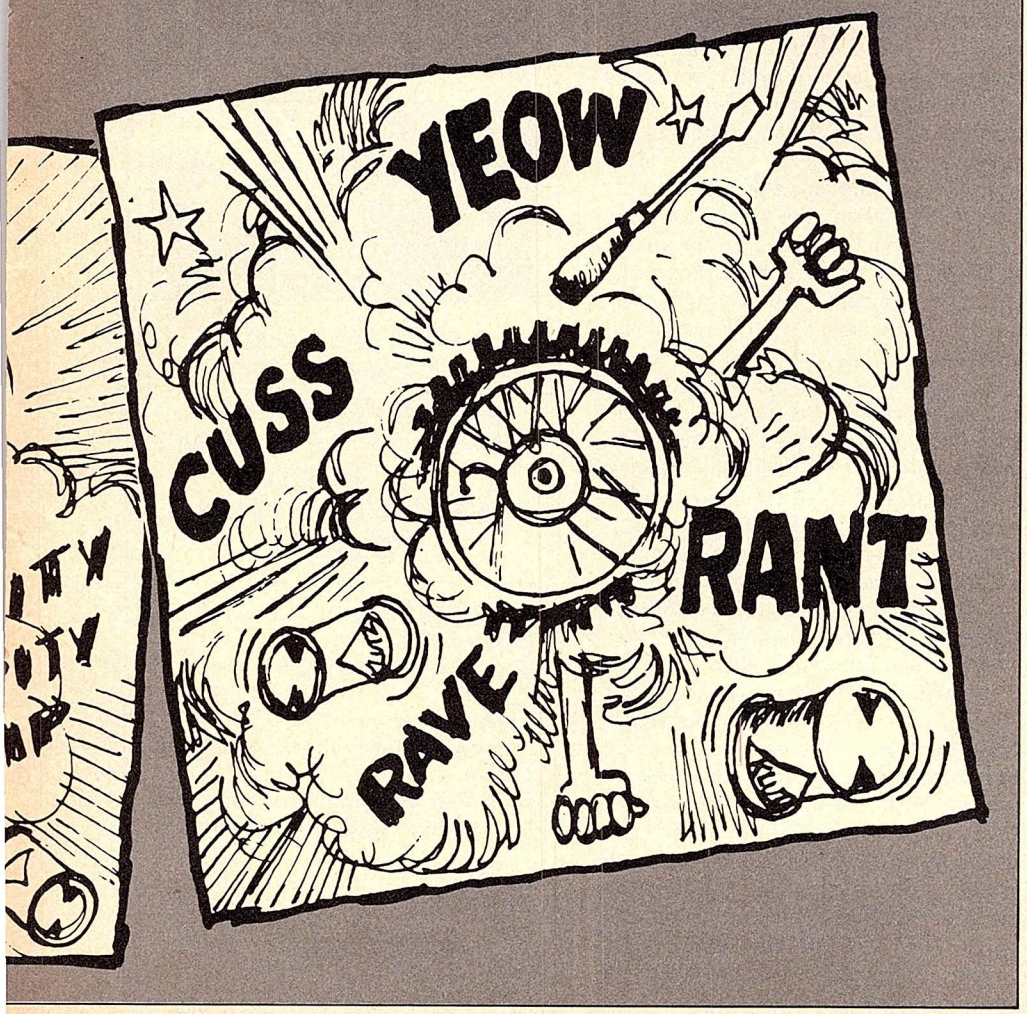


On a morning when Tony came up short of ideas he let the Cat draw his own strip. Naturally, it ended with the Cat as an international hero.



Anyone who has mounted a 4.50x18 knobby can understand the Cat's frustration.

Motocross Cat will do anything for that first place trophy.



impound lot. Once he was shocked to learn that his bypass route around a difficult section of the track was barred by an electrified fence. After telling a four-stroke rider that his bike was too big and heavy to win, the Cat found himself in the final panel with knobby tracks across his head, while the departing four-stroke rider yelled back, "Big, heavy four-strokes are good for squashing cats!"

A moderating influence on the Cat's proclivity to the seamy or unseemly is his buddy Ernie, a character who appears to be a dog but whom Bell describes as "a miscellaneous animal." Ernie often takes a dim view of the Cat's bright ideas, but the Cat is the kind who must learn by himself. Nevertheless, he remains a true friend. Recently the Cat repaid Ernie's loyalty by roaring through his wedding on a Hastevarna, leaving flowers in his wake. "I'm saved!" shouted Ernie gleefully.

Prunehilda, the Cat's girlfriend, tries to instill some culture in the feline, who is given to beer-drinking and bench-racing rather than tea and crumpets. Once she dressed the reluctant Cat in a tie and tails and hauled him off to the opera. One of the finest panels in all the strips shows Motocross Cat, well-bedecked with hair parted in the middle, packing double on his Hastevarna to the opera. During a primo aria the Cat sneaks out for a six-pack and returns via stage right, resulting in a great deal of discomfort for Othello and the rest of the cast. Prunehilda, however, has been known to go skinny-dipping with the Cat after a hot day at the races, and for his last birthday presented him with a metric crescent wrench, metric hammer and metric chisel.

Many of the Cat's escapades are true-life adventures gleaned from Bell's experiences as a motocross rider and spectator. His career as a racer, aboard a Yamaha DT-1 Enduro converted to a motocrosser, was brief — two races — but Motocross Cat inherited Tony's old racing number, A-200, also (not so coincidentally) the brand name of a patent body lice medicine. Tony often attends races with a note pad in his pocket, in case he observes a good idea for a Cat strip. Each race yields at least one week's worth of inspiration. To wit: the time that he took several laps around Texas Stadium in Dallas before a Supercross series race looking for an entrance to the parking lot — shortly thereafter, the Cat appeared in the pages of *Cycle News* faced with the same dilemma. And in Mexico, Tony watched a friend's 250 YZ go up in flames and be extinguished with the contents of an ice

MOTOCROSS CAT

chest (and a scotch drink Tony gallantly dumped on the fire). Next week the Cat was dumping an ice chest full of beer on a flaming motorcycle.

Real situations can sometimes result in unflattering portrayals of the antagonists in Cat strips. A race in Houston at which the AMA officials angered many of the riders was reported in a Cat episode that showed the referees to be petty and disorganized. In another, a character who is obviously meant to represent Ralph Nader, drawn as a cross between a turkey and a goose, invents a "safe" motorcycle, which has four wheels and a one-horsepower motor. Tony's frustration at a sports car race where he wasn't allowed near the track was salved in a Cat strip that poked fun at the system of different color passes indigenous to automobile racing.

Several of the people who appear in Motocross Cat are caricatures of live, flesh-and-blood folks. Among them are Steve Stackable, Tony's neighbor on the south side of Austin, John "Light Brown" Lancione, often observed swapping lies with Tony, and Jimmy Weinert, an adversary of Tony's wife in several corn-eating contests.

Actually, Motocross Cat is fairly tame stuff for Bell, who in the past has helped engineer the adventures of Philbert Desanex, known to his fans as his alter-ego, "The Fearless, Foul-Mouthed Hog of Steel, Wonder Warthog." Gilbert Shelton, a Texas cartoonist currently drawing "The Fabulous, Furry Freak Brothers," and Tony produced a portfolio of Warthog strips that caused thousands of mothers to shake their heads about what the younger generation was coming to. Published in *Drag Cartoons* and other periodicals, Wonder Warthog was an early 1960s parody of the super-hero comic book genre — Green Lantern, Batman, Superman, etc. It was most closely modeled after Superman, with a meek newspaper reporter (Philbert Desanex) who sprang into action as the Hog of Steel when one of his arch-enemies assaulted the serenity of life in Muthalode, Warthog's "Gotham City." Three of the criminals regularly brought to justice by Wonder Warthog were "Pie Man," instigator of a plot that trapped the Hog under a giant strawberry rhubarb pie, "The Mad Meanie," whose '49 Buick Roadmaster ejected "rubber weevils" to eat the Hogmobile's tires, and "Super Fool," a buffoon who wore a lamp shade on his head.

Though many of the Warthog strips were based on themes generated by another era (H-bombs, racial integration, JFK), reprints published by the Rip-Off Press in San Francisco are still selling steadily. Warthog was briefly revived for a cameo appearance in Motocross Cat, but was reinterred when he lost his temper and ate the Cat's Hastevarna.

An attempt by Tony to sell a nationally syndicated comic strip failed when the powers that decide such things concluded that his "Johnny Eagle," the adventures of a World War I fighter pilot, was too war-oriented for the mid-'60s anti-war consciousness. His cartoons and illustrations have been published in *Cavalier, Guns and Ammo, Popular Science, Motocross Action, Dirt Bike and The Texas Ranger,* as well as a number of other magazines.

Though he has spent much of his adult life working on one cartoon strip or another, Bell considers himself more sculptor than cartoonist. A few of his silver and bronze sculptures are priced in the $2000-$3000 range. In 1973, AMA National Motocross Referee Lancione and a group of motorcycle businessmen commissioned him to design and cast a bronze plaque commemorating Jim Pomeroy's first American win in the Spanish Grand Prix. Bimbo was presented the plaque during ceremonies at the Houston Astrodome while Tony munched a hot dog in the grandstands.

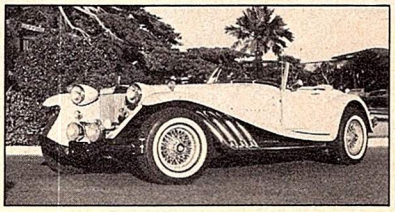
Producing a weekly comic strip requires discipline and a lot of thought, particularly when the most obvious story lines have been used up for years. But there is the financial reward and the satisfaction gained from having entertained your readers. And the occasional autograph...

And the occasional surprise. A few weeks after the publication of a strip in which the Cat attaches his Hastevarna to a hang-glider (and ended the maiden voyage on a section of track soon to be occupied by a high-balling freight train), Tony received a letter from a lawyer in California. It seems that his client, a man who claimed to have invented the motorcycle-powered hang-glider, was involved in litigation with another person who thought *he* was the inventor of such a craft. Both claimed the rights to manufacture it. The lawyer requested Tony to send him the date on which he came up with the cycle glider idea — there was a possibility that the cartoonist and the Cat had beaten both of them to the punch. Tony supplied the date, then went on to write..."If in fact I am the inventor of the motorcycle-powered hang-glider, please send all royalty checks to Tony Bell..."

GOOD NEWS... AUTO REPORTS MAGAZINE IS GOING BI-MONTHLY!

Cover-to-cover, AUTO REPORTS is packed with indispensable facts, fundamentals, exclusives, photos and the most informative up-to-the-minute information on the WHOLE automotive industry!

COMPLETE ROAD TESTS of some of the world's most exciting automobiles.
PREVIEWS os Detroit's new model lineups.
SPECIAL FEATURES on subjects ranging from handling dealer warranty problems to investigative reports on alternate power sources.



AUTO REPORTS SAYS IT ALL. AUTO REPORTS GIVES IT ALL. SEND IN YOUR SUBSCRIPTION TODAY!

AUTO REPORTS MX-5-3
P.O. Box 317
Encino, California 91316

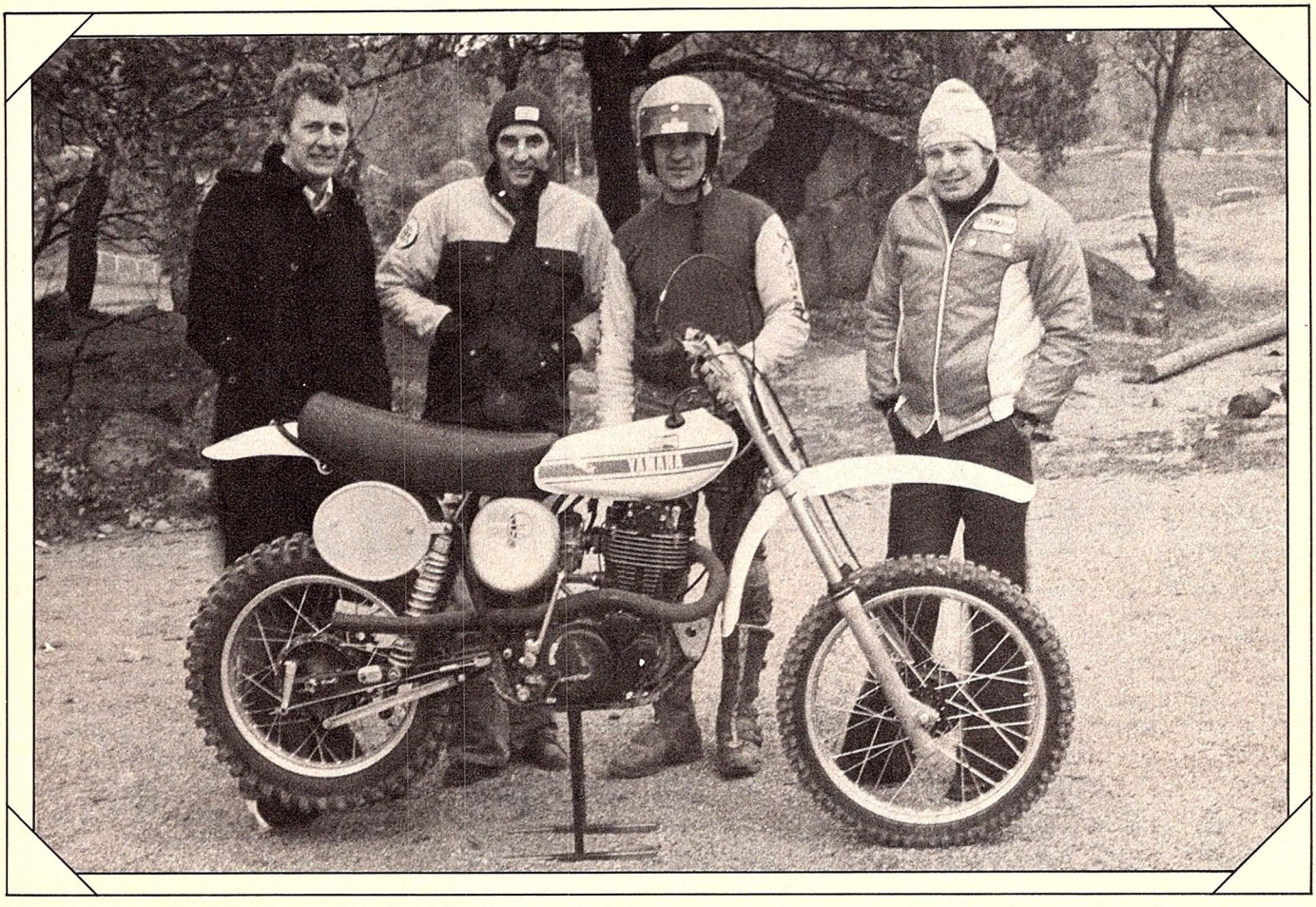
6 Issues — $5.00
(Please enclose check or money order)
Canadian subscriptions add $1.00 additional postage and handling.

NAME _____
ADDRESS _____
CITY _____
STATE _____ ZIP _____

exclusive from europe

FOUR-STROKE FOR ABERG

SWEDISH THUMPER PROJECT HAS DeCOSTER WORRIED



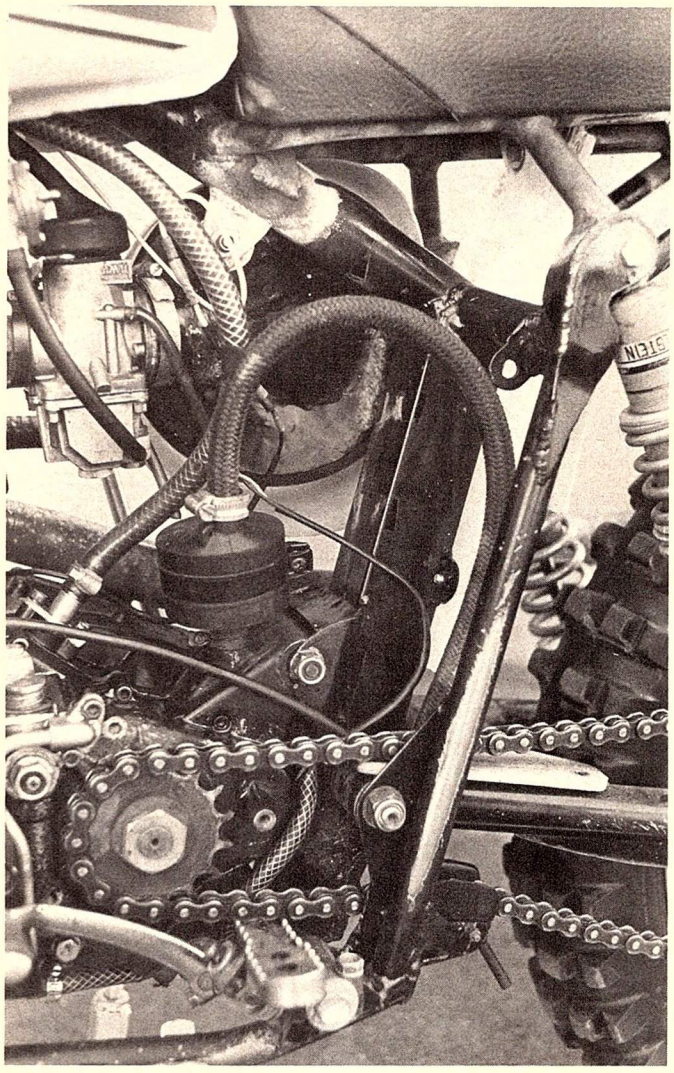
(Left to right) Torsten Hallman, Sten Lundin, Bengt Aberg, Staffan Eneqvist and the Hallman-Eneqvist Yamaha.

By Paul Boudreau

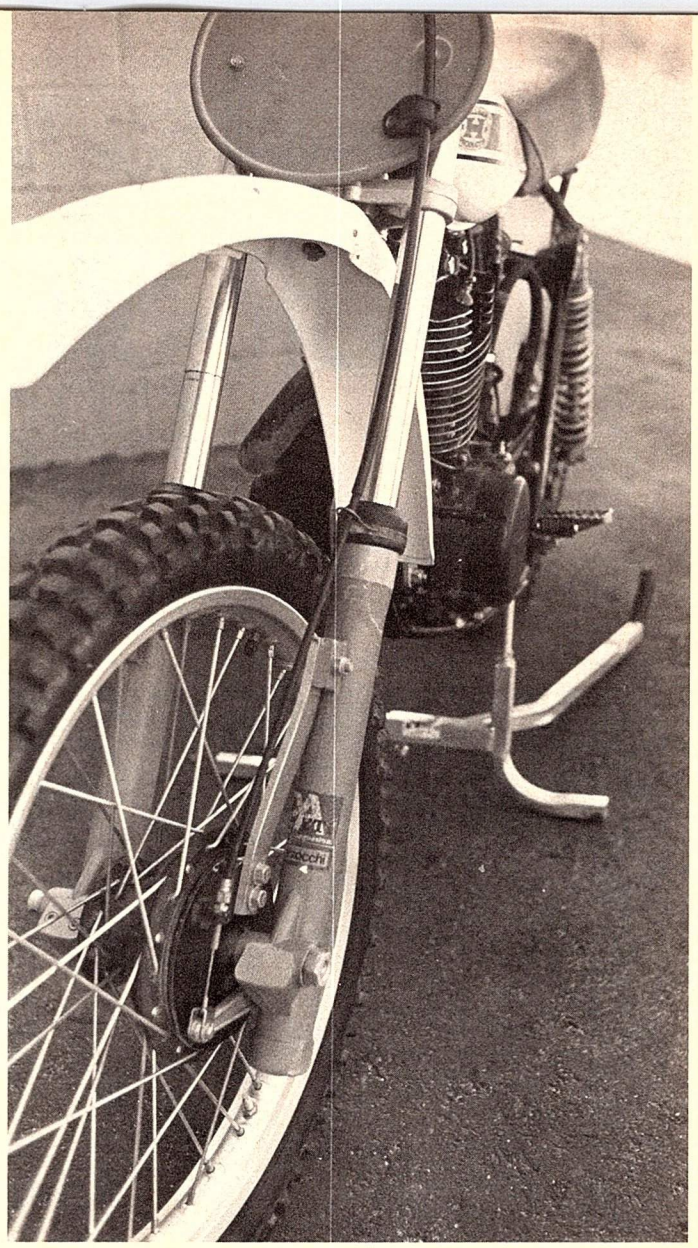
Roger DeCoster sat before a prime rib dinner the night after the Phoenix Trans-AMA chatting quietly with friends and business associates about motocross in general, and in particular the coming season in Europe. "My chief competition in the World Championship next year," he said lifting his fork to make the point, "will be Bengt Aberg on the four-stroke." To a few of the guests assembled at the table who knew about such matters, this was no surprise and they nodded their agreement. Most, however, received the statement with utter astonishment. Four-stroke? Aberg on a four-stroke? The possibilities seemed mind-boggling. Aberg's love of the big lungers is well known and his abilities are unquestioned, but where would such a machine come from that would elicit such a statement from the World Champion?

Knowing that our readers would want to know all about such a development, we got right on the story and this is what we came up with. Bengt Aberg, twice World Champion in 1969 and 1970, will indeed campaign a 500cc four-stroke in the 1977 World Championship. The bike will be a totally Swedish project built around a standard Yamaha TT500 engine using Marzocchi front suspension, Bilstein rear suspension and a Husq-

FOUR-STROKE FOR ABERG

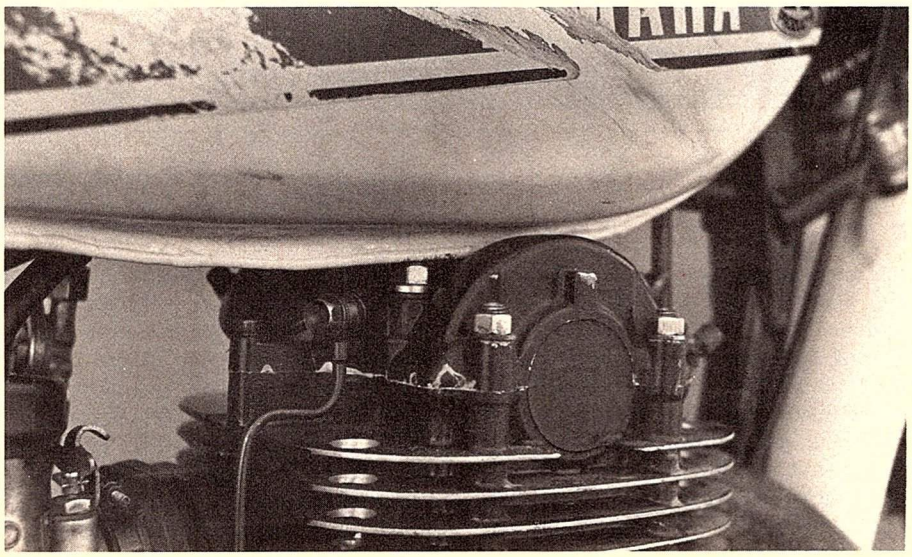


Rectangular frame section doubles as oil tank, Amal carb replaces Mikuni, canister doodad is gearbox breather baffle with tube taped to oil return hose. Distance from countershaft center to swingarm pivot will doubtless cause chain problems.



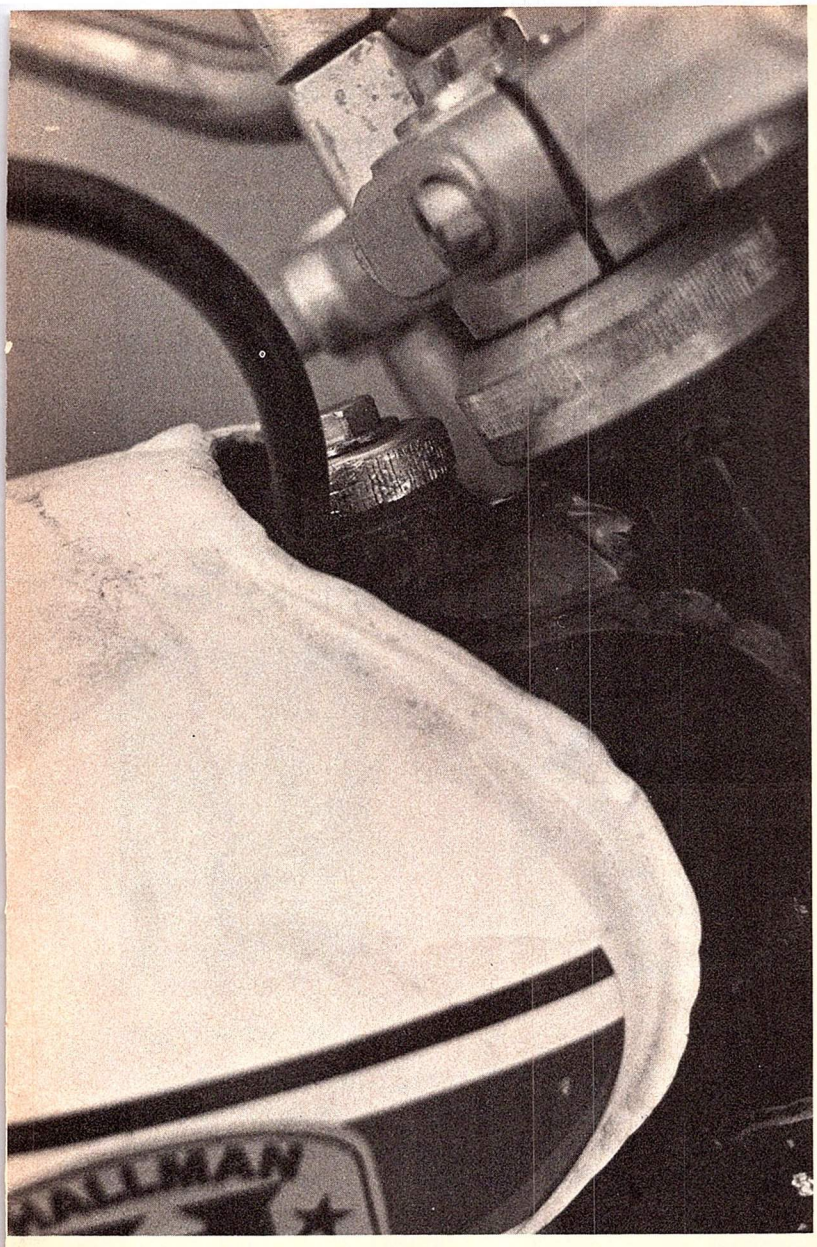
Front suspension is standard Marzocchi.

A high center of gravity is evidenced by this tight fit of the cam carrier under the fuel tank.

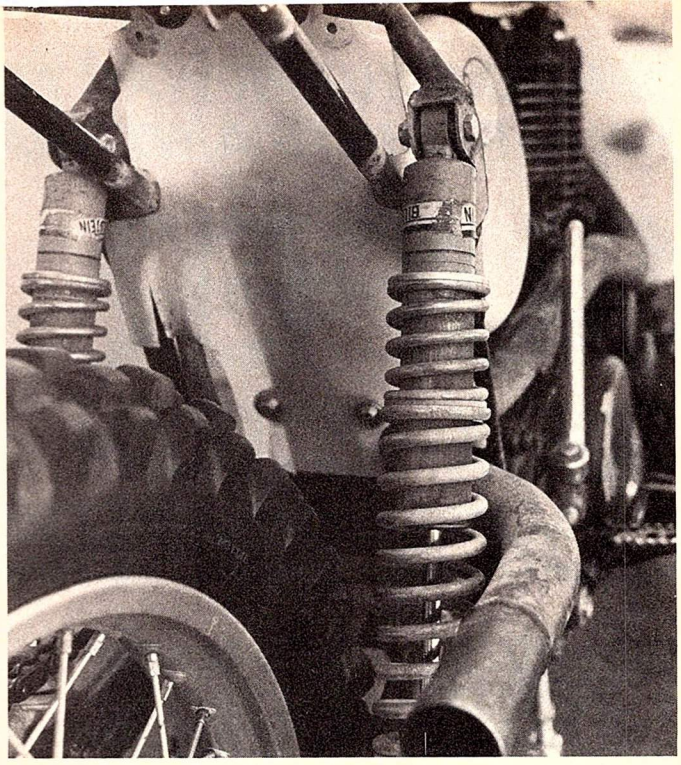


varna-type frame.

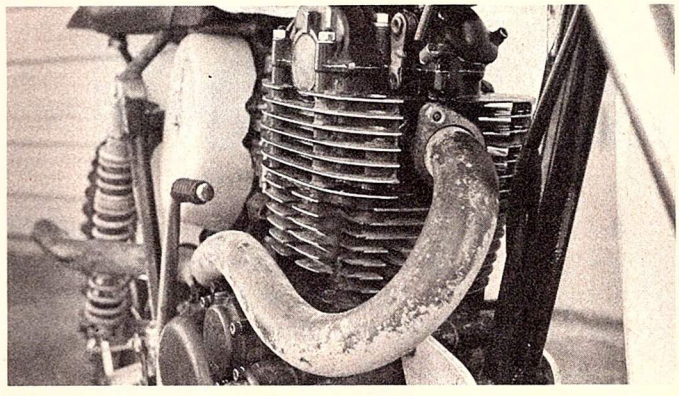
The project was conceived and executed by Hallman-Eneqvist, the Swedish importer of Yamaha motorcycles. If those two names sound familiar it is because they have been connected with motocross since its beginnings. Torsten Hallman, of course, was three times the World Champion in the 250cc class after winning the European championship in 1962. Staffan Eneqvist is one of the original Swedish Grand Prix stars who came to the U.S. with Hallman, Ake Jonsson, Joel Robert and Roger DeCoster for the 1967 Inter-Am series, the year motocross broke wide open in this country. Working with Hallman as brood hen and chief engineer for the project is another former World Champion, Sten Lundin, who won the title in 1961. Lundin was the man who first held the admiration of a teen-aged Roger DeCoster with his immaculately



Oil tank filler is located just forward of fuel tank. Note Husqvarna frame component.



Rear suspension is Bilstein mounted on a Husqvarna swingarm. Note rear subframe modifications.



Monster 500cc Yamaha four-stroke engine breathes into a Lundin-built pipe and produces adequate power for GP competition.

prepared Lito four-strokes, sano appearance and collected demeanor. To this day DeCoster emulates Lundin and has used him as a model for his career.

Together, Torsten Hallman, Sten Lundin, Staffan Eneqvist and Bengt Aberg among them have seven World Championships and enough experience and expertise to produce a healthy challenge on their first try.

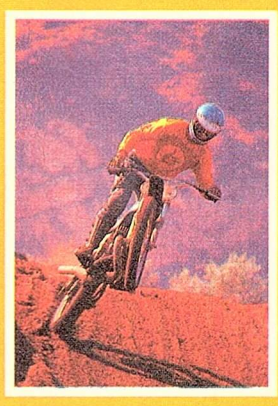
The bike, brainchild of Lundin and in development for two years, is based on the Yamaha TT500 four-stroke single overhead cam engine. At this stage modifications to the engine include a built-up piston to produce a 10.5:1 compression ratio, a 34mm Amal carburetor to replace the standard 36mm Mikuni, a Bosch ignition coil working with the standard Yamaha magneto, and a Lundin-built exhaust pipe. The development bike uses a standard Husqvarna frame with modifications to accept the Yamaha engine and includes a two-quart oil tank in its backbone member. Front suspension is standard nine-inch travel Marzocchi with magnesium sliders, and rear travel is controlled by specially produced Bilstein shock absorbers mounted on a modified Husqvarna swingarm to produce around nine inches of wheel movement. Hubs, wheels, seat and fuel tank are standard Yamaha items and the air cleaner has been specially fabricated for the project. Wheelbase is 57.5 inches with a 19-inch swingarm, 11.0 inches of ground clearance and a curb weight of about 101 kilograms.

Final developments of the machine before the first World Championship event at the beginning of May in Austria will include an American-built frame after the Swedish design, an aluminum swingarm riding on needle bearings with American-made Fox air shocks, lighter clutch and engine components to reduce weight, the possible removal of first and second gears in the transmission to reduce weight and engine drag leaving three gears adequate for the amount of torque and horsepower the engine produces, and other minor alterations to bring the bike up to Grand Prix specifications.

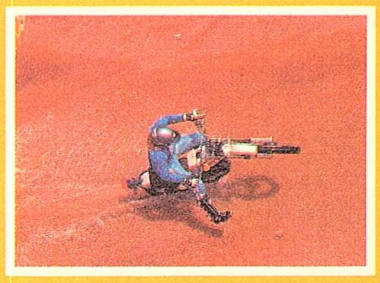
Friends of Aberg say they haven't seen the man so happy in years. With 30 hours already on the bike, Aberg is still like a baby with a new toy, and the Hallman-Eneqvist team is confident the new toy will prove reliable. The final proof, of course, will be its performance under the stress of World Championship competition. In any event, if this project has the merit to move DeCoster, it is certainly worth staying close to and seeing it to the end. We hope to bring you further reports as the project develops.

HERE'S A SUPER WAY TO COVER THE CRACKS, FINGERPRINTS AND GRAFFITI ON YOUR WALLS . . .

SUPER TRICK-ACTION COLOR POSTERS

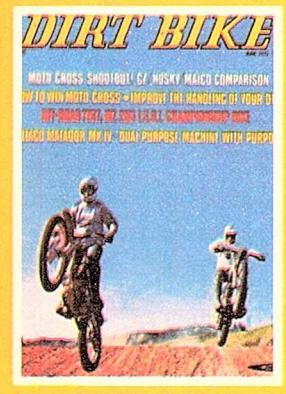


10. JIM CONNOLLY, 250 BULTACO PURSANG

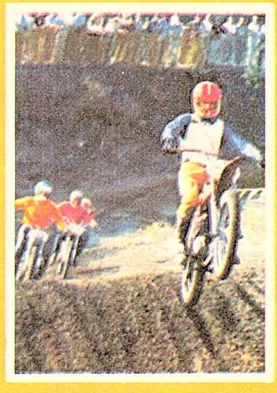


9. GEORGE WEGNER, CAN-AM 175

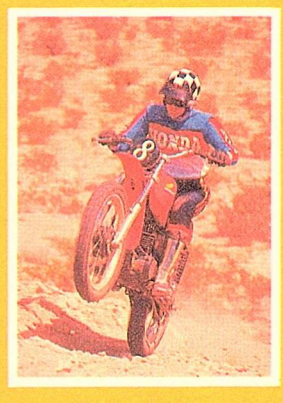
☆ FOUR NEW ALL-ACTION COLOR POSTERS



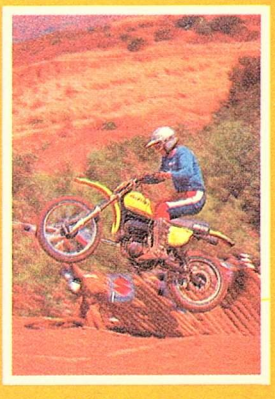
1. FIRST ISSUE OF DIRT BIKE



2. ACTION AT INTER-AM

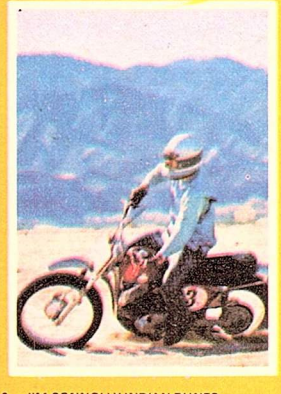


11. AL BAKER ON A 250 HONDA

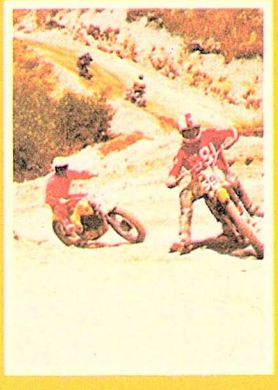


12. GUNNAR LINDSTROM ON A SUZUKI

Got a 17x22-inch fingerprint on your wall? Cover it up with one of these Super-Trick Action Color Posters! They make any room look really neat. Only $2.50 (plus 50 cents postage and handling). If your color scheme is Divine Dirt, order any four for $7.50 (plus $1.00 postage and handling) and really blow your mind! Postage will be paid on all orders over four.

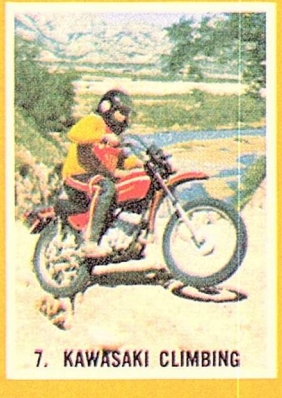


3. JIM CONNOLLY INDIAN DUNES

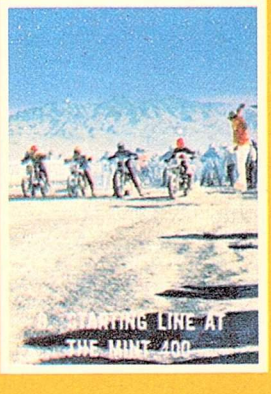


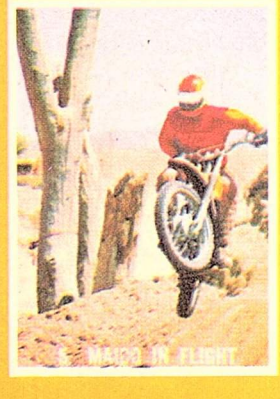
4. JUNIOR ACTION

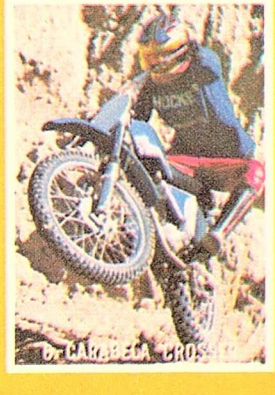
Use the coupon below — **ORDER NOW!**



7. KAWASAKI CLIMBING







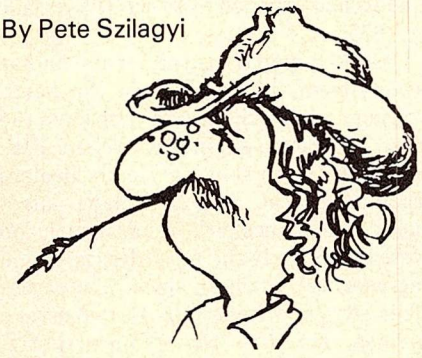
PLUS PRODUCTS, INC. MX-5-3
P.O. Box 14945, Las Vegas, Nevada 89114

Enclosed is check or money order for $_____
Poster No. 1☐ 2☐ 3☐ 4☐ 5☐ 6☐ 7☐ 8☐ 9☐ 10☐ 11☐ 12☐
$2.50 each plus $.50 postage and handling; $7.50 any four plus $1.00 postage and handling.

Name_____
Address_____
City_____
State_____ Zip_____

Continued from page 4

By Pete Szilagyi



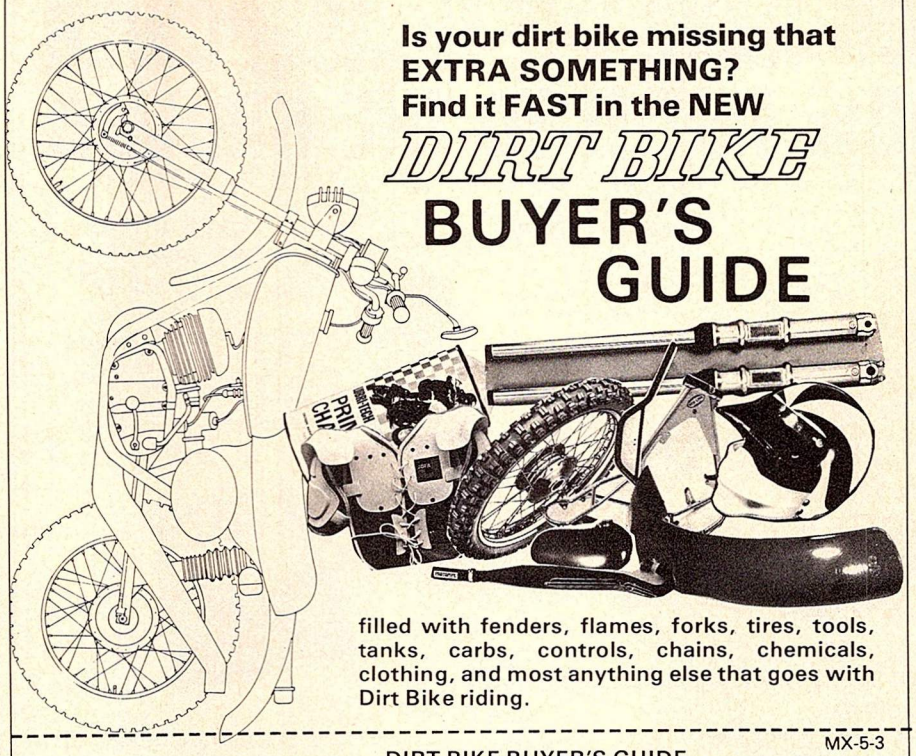
shocks by drilling a hole in the shock body and replace it with a quality domestic oil. (A friend who owns a Yamaha shop says he once drained the oil out of a DT-1 MX shock and found fish scales, but he has always been given to exaggeration.)

Suzuki was the first to offer a genuine, built-from-the-ground-up motocross bike, the TM400, around 1971. That motorcycle quickly became legend, and it's rumored that Suzuki still has a warehouse full of still-crated TM400s they couldn't unload. Trouble was, the factory started out at the top, with a 400, instead of experimenting with a 125 first. So all the crashes were fast crashes, and crashes that people remembered. Fortunes were made selling TM400 frame kits and other accessories to make the beasts handle. As a matter of fact, the first time I met the Bazzer, he was fresh off the boat from New England and had himself a TM400. He was calling himself Bazooka Pete, had a more pungent Yankee accent than Teddy Kennedy and a Suzuki with so many welds on the frame that the tubes looked like grafted fruit tree branches. He thought it was boss.

My purpose isn't to poke fun at these bikes, but to point out how quickly, and sometimes radically, these companies got their heads together. Honda forced them to in early 1973 when they brought out their first two-stroke, the 250 Elsinore. Honda carefully controlled the public's access to the bike and hired a very personable man to sing its praises to the cycle magazines — as if the Elsie was as rare and wondrous as tits on a bull. The bike was an instant media hit and subsequently a big seller.

Deservedly so, too, because it went fast and handled well, and looked oh-so serious. However, so capricious are motocross riders in their bike selection that the 250 Elsinore was only a hot seller for slightly over a year. By that time, the 125 had been introduced, and it too was an instant sensation, but both

Continued

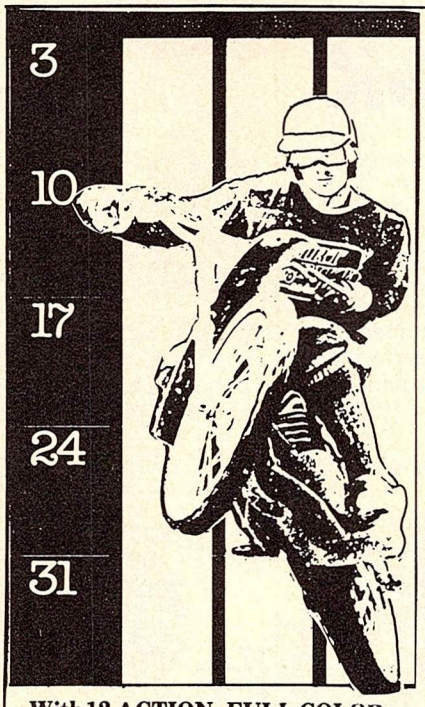


Is your dirt bike missing that EXTRA SOMETHING?
Find it FAST in the NEW
DIRT BIKE BUYER'S GUIDE

filled with fenders, flames, forks, tires, tools, tanks, carbs, controls, chains, chemicals, clothing, and most anything else that goes with Dirt Bike riding.

ORDER TODAY!
Only $2.00
plus $.50 postage and handling for each copy ordered. Make checks payable to HI-TORQUE PUBLICATIONS.

MX-5-3
DIRT BIKE BUYER'S GUIDE
P.O. Box 317 Encino, CA 91316
Name_____
Address_____
City _____
State _____ Zip _____



With 12 ACTION, FULL COLOR MONTHS, plus features like CHAMPS OF YESTERYEAR, BENCH RACING, and more, it's a bargain at only $1.50, plus 50c postage and handling for each copy ordered. ORDER TODAY. AND REMEMBER A FRIEND — THEY MAKE SUPER GIFTS.

THE 1977 DIRT BIKE CALENDAR IS ALREADY HERE AND WAITING FOR YOU TO GRAB IT UP!

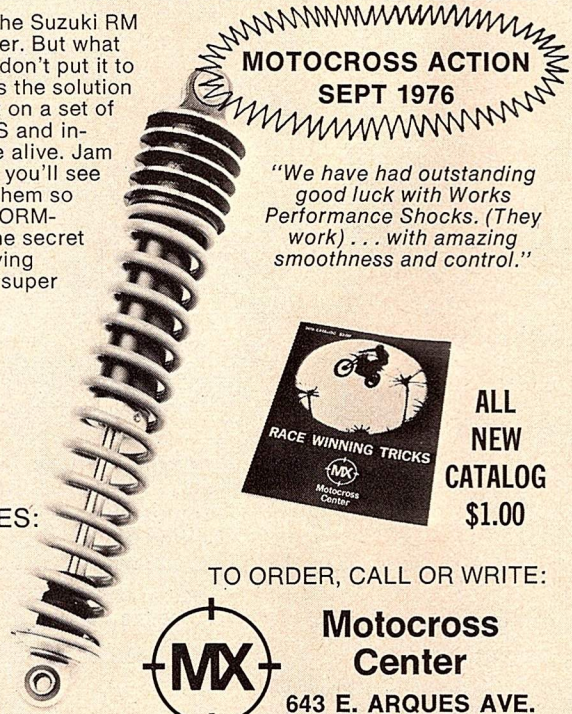
Make check payable to HI TORQUE PUBLICATIONS.
MX-5-3
DIRT BIKE CALENDAR
P.O. Box 317, Encino, CA 91316
NAME _____
ADDRESS_____
CITY _____
STATE _____ ZIP _____

YOU HAVE THE HORSEPOWER NOW PUT IT TO THE GROUND

Motocross bikes now-a-days like the Suzuki RM have more than enough horsepower. But what good is horsepower if the shocks don't put it to the ground? Motocross Center has the solution to your suspension problems. Bolt on a set of WORKS PERFORMANCE SHOCKS and instantly feel your horsepower come alive. Jam down a bumpy straight-a-way and you'll see why MOTOCROSS ACTION likes them so much. What makes WORKS PERFORMANCE SHOCKS work so good? The secret is in the **patented** progressive valving system. With it, you get a smooth, super controlled ride over the roughest terrain.

MOTOCROSS ACTION
SEPT 1976

"We have had outstanding good luck with Works Performance Shocks. (They work) . . . with amazing smoothness and control."



WORKS PERFORMANCE SHOCKS

SPECIALLY DESIGNED FOR THE FOLLOWING BIKES:

SUZUKI RM
(Standard & long travel)
MAICO GP, AW
KTM MINT, MC-5
LONG TRAVEL CZ
HUSQVARNA CR, GP
BULTACO MARK 9
YAMAHA TT, XT 500
HONDA CR 125, 250 **$114.95**

DEALER INQUIRY INVITED

ALL NEW CATALOG $1.00

TO ORDER, CALL OR WRITE:

Motocross Center
643 E. ARQUES AVE.
SUNNYVALE, CA 94086
(408) 245-6060

Circle 12 on page 72

Look I'm Performance

Number One Products, a world leader in performance suspension, is offering you handling and performance shocks for both Competition and Street.

Also available in "GP" Chrome Body Shocks for Street and Touring.

I'm . . .
the Freon
Gas Shock
I'm . . . the Ultimate
in Performance **PLUS**
I'm **REBUILDABLE**

Contact your local dealer or write to:

Number 1 Products Inc.

4931 Encinita Avenue
Temple City, CA 91780 • (213) 287-9738

Circle 13 on page 72

Continued

models had dropped from the Hit Parade by 1975.

Of all the manufacturers, Yamaha has always been the first to see the handwriting on the wall, or else they have the most ambitious engineers. When Elsinore sales were sending Honda dealers crooning to the bank, Yamaha introduced the monoshock rear suspension system, certainly the most drastic single engineering change since motocross bikes switched from four- to two-stroke engines in the '50s. Concurrently, Yamaha and Husky were discovering the virtues of reed valve induction systems, and of lacing cylinders with extra transfer ports.

While Yamaha was still testing its monoshock YZ, private tuners and factory engineers were experimenting with a concept that Harley-Davidson had discovered and implemented years before, when Roger DeCoster was having snowball fights during junior high recess back in Belgium: laydown shocks, to allow the rear suspension more travel. Since the shock absorbers of the day couldn't handle the additional load generated by the forward mounting, new shocks, some with greatly improved gas-oil damping systems, were invented.

Next thing we knew, bikes coming from all the factories (except Yamaha) had laydown shocks, and what had been learned about damping systems from the new generation of shock absorbers had been applied to front forks as well. At long last, just about everyone figured out that one of Maico's time-honored handling tricks, mounting the front axle ahead of the fork stanchions and shortening the distance between the fork stem and stanchions, really worked. Suzuki caught on to everything with a big bang, and added a few new induction tricks of their own, when the RM line of showroom MXers was brought out. Virtually every brand of motocross bike has been getting more powerful and better handling from year to year. Now Yamaha's even fooling with water-cooling, and it seems to be successful.

Where does it all end? Obviously a motocross bike can only be made to handle so well, and only so much usable horsepower can be extracted within the confines of displacement limits. A good indicator of things to come are the factory bikes at Trans-AMA races, but those at last year's races merely exhibited refinements of existing technology (at least externally — usually nobody talks much about what's inside).

Continued

LONG-WEARING, COLORFUL

Tank-Tee and Sweatshirts

FOR THE WHOLE FAMILY!

M-253

M-254

M-252

M-247

M-246

M-244

M-98

M-241

M-219

M-245

M-51

M-240

M-248

M-249

M-251

M-243

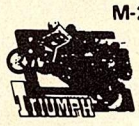
M-237

M-207

M-250

M-96

M-66



M-270

M-281

M-138

M-180

M-613

M-531

M-111

M-182

268

M-171

L-15

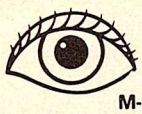
M-137

M-172

M-130

M-534

M-516


M-503

M-280

M-287

M-617

M-286

CM

MX

BB

DB

M-255

M-110

M-535

M-108

M-592

M-170

PLUS PRODUCTS, INC.

All shirts made of 100% Premium Cotton

GET IT ON!

PLUS PRODUCTS, INC.
P.O. Box 14945 Las Vegas, Nevada 89114
SIZES: S–M–L–XL

MX-5-3

Tank Shirt Colors: Orange, Yellow, Blue
T-Shirt Colors: White, Red, Yellow
Sweatshirt Colors: Red, Yellow, Blue, White

T-SHIRTS, $4.45 with emblem on front. $5.45 with emblem on both sides. SWEATSHIRTS $5.95. TANK SHIRTS $3.95 with emblem on front. $4.95 with emblem on both sides. Nevada residents add sales tax. Add 50¢ per shirt for postage and handling.

NAME _____

ADDRESS _____

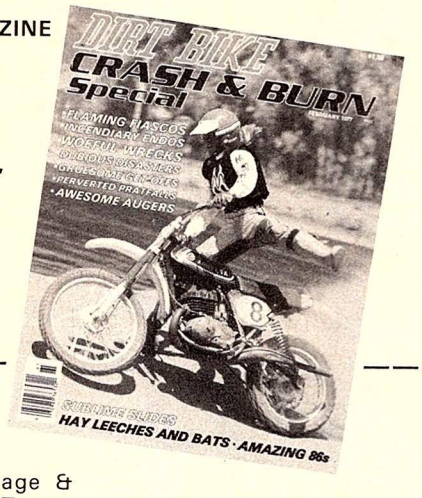
CITY _____

STATE _____ ZIP _____

NOW AVAILABLE . . .
The All New

CRASH & BURN SPECIAL

from the Editors of DIRT BIKE MAGAZINE



DON'T MISS THIS ONE . . .

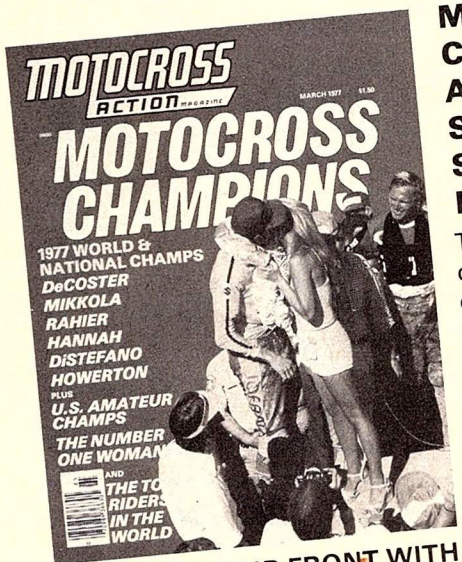
IT HAS ALL THAT YOU EXPECT FROM CRASH & BURN AND MORE

CRASH & BURN 1977
P.O. Box 317, Encino, California 91316

Please enclose $1.50 plus 50c postage & handling. Make checks payable to Hi-Torque Publications, Inc.

MX-5-3

Name _____
Address _____
City _____
State _____ Zip _____



MOTOCROSS CHAMPIONS . . . ANOTHER SPECTACULAR SPECIAL FROM HI-TORQUE.

Think of it . . . an entire year of dust, dirt, danger, thrills, excitement, top competition races, and the greatest collection of Motocross Champions . . . and you will have an inkling of just what's between the covers of this colorful, ACTION-PACKED edition . . .

DON'T WAIT . . . BE UP FRONT WITH MOTOCROSS CHAMPIONS Cover the 1977 world & national champs. U.S. amateurs. As well as top women riders & much, much more.
DETACH THIS COUPON AND SEND IN YOUR ORDER TODAY! ONLY $1.50, plus 50c postage and handling for each copy ordered. Please enclose check or money order.

MX-5-3

MOTOCROSS ACTION
P.O. Box 317,
Encino, CA 91316

NAME _____
ADDRESS _____
CITY _____ ZIP _____
STATE _____

Continued

Understand that none of the factories are going to go out on a limb with a new concept during a crucial series where conservatism sometimes pays, but last year's Trans-AMA machines showed none of the promise that the mono-shockers displayed when showcased at the 1973 Trans-AMA. It's possible that radically new theories have been tested under secrecy this past year in Japan and elsewhere, but they might have been flops or are still in need of further development.

Certainly current engine, frame and suspension designs will be upgraded, but I think there are still major breakthroughs to come in other aspects of motocross bike engineering, specifically in final drives, wheels and tires, and the somewhat less tangible area of reliability.

Chains are the bane of the motocross rider. Up to 25 percent of the DNFs in professional motocross competition can be attributed to broken or slipped-off chains, and the problem has been compounded by long-travel swingarms. Chains are reliable at relatively slow, steady speeds, as used, for example, to drive cotton gin separators or turn-of-the-century automobiles — but not for motocross. A shaft drive will most likely be developed.

Because of the variable distance between the transmission and rear hub, some sort of telescoping shaft drive will have to be devised. It must be strong, light and well-protected. A splined shaft from the gearbox might fit inside a hollow shaft from the rear hub (or vice versa), with a small boot covering the moving parts to protect them from dirt. Then, of course, provision would have to be made to allow the rider to adjust final drive ratios without having to install another rear wheel assembly.

When undentable (under normal circumstances) rims went into production several years ago, a lot of the headaches went out of wheel maintenance, but MX engineers are likely to resume serious experimentation with one-piece alloy wheels. They were once tried a while back, but test riders complained that too many vibrations, jars and jolts were transmitted up to the handlebars. Spoked wheels flex, solid cast wheels do not. Additionally, the fat "spokes" on one-piece wheels attract a lot of mud. But the judgment of early testers wasn't final, and one-piece wheels would move motocross bikes slightly closer to being indestructible. And they look so sexy that the

manufacturer first on the scene with them could pick up an extra ten percent in sales on sheer rider horniness for something trick looking.

Also hung from the axle and victims of a lot of punishment are tires and tubes. Flat tires have stolen more trophies and purse money than cigarettes, whiskey and wild women combined. The logical solution would appear to be a tubeless tire, but several experiments in this direction (the majority by desert racers) have shown that knobbies roll off the bead too easily when broadsliding or torquing out of a corner. There goes the air. Tubeless tires may never be used on motocross bikes, but a puncture-proof material that could be used for inner tubes may someday be invented. All the riders I know would pay a premium price for a tube that would save them from the agony of having to repair flat tires.

You'll notice that all the changes I've forecasted concern improving reliability to prevent DNFs. The engineers who design motocross bikes have been stumbling over each other to improve performance, and they've done right well, but now at least part of the emphasis should shift to keeping a good thing going. Who needs a good handling bike that constantly snaps frames or bends swingarms?

Cost is a major factor. Any motocrosser could be bulletproofed at the factory, but it would have to cost over $2000. A major aspect of reliability lies in materials. Since it's not feasible to use exotic metals for production bikes, the factories will have to learn to make better use of what they can afford. Quality control should also be upgraded to eliminate the chances of you going over the handlebars because some worker at the factory came in with a hangover one morning and just didn't give a damn. Speed and flash and handling are what attract most MX bike buyers, but as the various brands of bikes become more equal in these respects, and models aren't outdated as rapidly, durability is going to become more of a sales advantage. "Throwaway" bikes will become a thing of the past. There might even be a time when you can campaign a bike for a couple of years and not have a guilty conscience when you sell it to some unsuspecting soul, and, of more importance, be able to get a decent buck for it.

In six or seven years if I sit down to write an article recapping what happened to motocross bikes in the late 1970s and 1980s, I might be spinning yarns about rotary engines, double disc brakes and fuel injection. But I doubt it. I still think I'll be writing about better bikes.

IT'S ALL HERE . . . IN THESE FIVE EXCITING TITLES FROM HI-TORQUE.

Cover the dust, dirt, bikes, and everything the TRUE rider needs to know all . . . inside the covers of these Very Special Editions . . .

Detach the order form and

ORDER NOW!

You can order any title individually or all of them.

MX-5-3

HI-TORQUE PUBLICATIONS, INC.

P.O. Box 317, Encino, California 91316

Name _____

Address _____

City _____

State _____ Zip _____

Send all 5 titles. I have enclosed $11.50, plus $2.00 postage and handling.

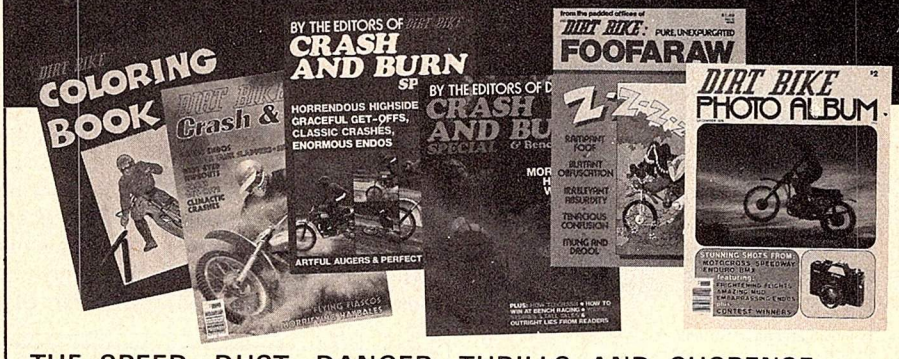
Include check or money order.

Please send only titles I have checked at regular price.

- ☐ How to Win At Racing — $5.00
- ☐ Wrench Manual — $2.00
- ☐ How To Go Fast — $1.50
- ☐ Best of Dirt Bike Tests — $1.50
- ☐ Desert Racing — $1.50

Add 50c postage & handling for each magazine ordered.

IT'S ALL HERE . . .



THE SPEED, DUST, DANGER, THRILLS AND SUSPENSE . . . Heated rivalries, memorable personalities, exciting races, and colorful fun-filled pages offer a grand tour of the motorcycle world.

Truly Collector's Items
ORDER NOW!

HI-TORQUE PUBLICATIONS, INC.

MX-5-3

P.O. Box 317, Encino, California 91316

Detach this order form and send for the titles you have missed. Send all 6 titles. I have enclosed $9.49. Plus $2.00 postage and handling. Please enclose check or money order.

Name _____

Address _____

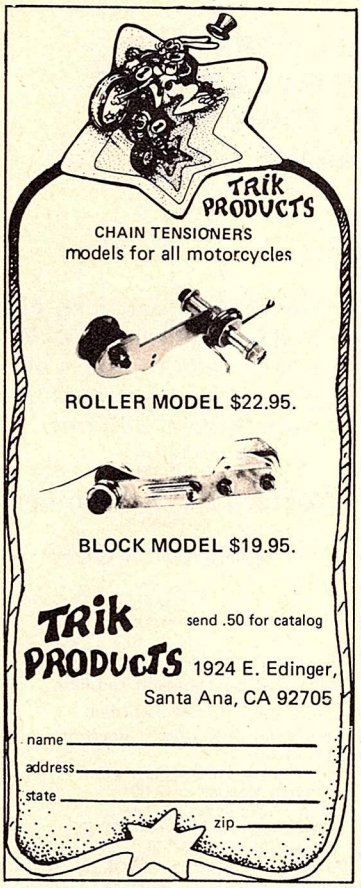
City _____

State _____ Zip _____

Please send only magazines checked at regular price.

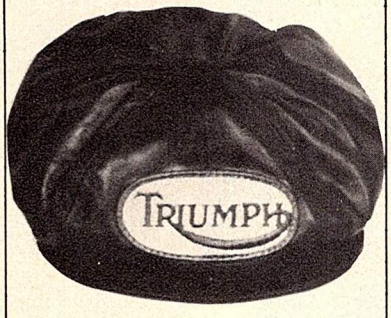
- ☐ Crash & Burn #14 — $1.50
- ☐ Crash & Burn Feb. 76 — $1.50
- ☐ Crash & Burn July 76 — $1.50
- ☐ Coloring Book — $1.50
- ☐ Foofaraw — $1.49
- ☐ DB Photo Album 1976 — $2.00

Enclose 50c postage & handling for each magazine ordered.



Circle 14 on page 72

THE ORIGINAL LEATHER STROKER



This handmade Stroker, using genuine quality soft black leather, comes with your Bike Emblem affixed. Don't worry about sizes, this Stroker is completely adjustable to fit all heads. Brands available: Harley Wing, Norton, BMW, Triumph, Honda, Yamaha, Kawasaki, Suzuki, Bell, or NO PATCH. If you have your own emblem, send it along and we will put it on your hat at no additional charge.
Satisfaction Guaranteed or your Money Back.
SEND TO: STONEHOUSE • P.O. BOX 27 • CORONA, CA 91720

I enclose ☐ Check ☐ Money Order ☐ Cash for $12.95 (Cal. res. add 6% tax) Add $1.00 postage & handling.

PATCH BRAND _____
My own emblem enclosed ☐
Name _____
Address _____
City _____ State _____ Zip _____
M-3 —Dealer Inquiries Invited—

Circle 15 on page 72

MAIL ENTRIES

Continued from page 9

makers was always faster when he rode for Yamaha. In looking at the picture of Tuner Turner in the Dirt column I noticed his RC doesn't have shocks. Pierre must prefer monoshocks! How did he ever talk Honda into building him one?

Bill Brantsworth
Portsmouth, Virginia

(*He did it with a European accent. — Ed.*)

THE KID RETURNS

Dear Baz,

Whatever happened to my favorite motocross racer Billy Barkfeather. You know, you did an exclusive interview with him back in May, '74. Who's he riding for now?

Jim Haggerty
Redlands, California

(*Billy, now a mature 5½ years old, has decided to quit kindergarten to pursue a professional racing career. He has just signed a two-year contract with Toys 'R Us and plans to campaign a Big Wheel in the European GPs. — Ass. Ed.*)

"MOTOCROSS"

Dear Gentlemen,

A friend of mine put this together. I thought your readers might be interested. I believe it is getting down to what motocross is all about:

"Motocross"

Gettin' it on. Dukin' it out, banging bars. That's what it's all about. The interviews, messing around in the pits, slapping tootsies across the fanny and eyeing the trophy girl. All that's, well, the sideshow, crowd noise. Just preparation for the moment. The moment when the gate drops and forty guys on forty machines are all trying for that same first turn and knowing that only one can get through it first. This is what it's all about.

Pat Casey
O.P., Kansas

(*I never knew getting the holeshot was that important. — Ed.*)

(*It is when you're in a waterbed. — Ass. Ed.*)

A QUICK LESSON IN SCORING STICKIES

Dear MXA,

I am writing to ask you generous guys for some stickers, or decals as you call them. If you get me more than 40, I shall subscribe to your magazine.

Andrew Eddie
Dareton, N.S.W., Australia

Dear MXA,

I would like to exchange some Australian stickies for some U.S.A. ones.

Graeme Attey
Como., Western Australia

(*Guess who gets the stickies. — Ed.*)

ANOTHER TUNER TURNER TRICK

Dear MXA,

How is Pierre's Honda standing up without any rear shocks in the picture of Roy Turner in your December 1976 issue?

Dave Stewart
Aurora, Colorado

(*Look closely, it's held up with wires. — Ed.*)

(*Would you believe it's done with mirrors? — Ass. Ed.*)

WHAT MEAN 'UM

Dear MXA,

I've done it! I finally figured out what WFO means!!!

Randy "Always WFO" Henry
Pendleton, Oregon

HAVING A TOUGH TIME FINDING . . . ?

Hey guys,

I live in _____ (town or city), and I can't get ..... at my local dealer, _____ (dealer name and address).

Please get these guys on the ball!

Send to **Hi-Torque Publications, Inc.**
P.O. Box 317
Encino, Calif. 91436

Continued from page 15

For local races, I've switched to a late-model aluminum Elsinore 250 tank. C&J seat mounts adapt to Elsinore seats. Air box and side panels must be custom-made, along with numerous brackets. Accessories like pipes, skid plates, sprockets or whatever are also available from C&J. The chain tensioner is made by Up-Tite Products, the oil cooler is from Lockhart Industries. Your stock rear wheel can be used, although an Elsinore 250 unit is much lighter. I laced up a Yamaha YZ250 front wheel as it's probably the lightest and strongest available. The best forks I've ever used are those from an RM250 or 370 with the internal springs and dampers I made. With a little extra machine work 11 inches of travel is delivered. The upper triple clamp was welded up, remachined, and rubber-mounted handlebar clamps were installed. K&N's chrome moly bars are best, so that's what was used. S&W Freon shocks are the most successful shocks we've used, so I'd suggest them. I mounted Preston Petty fenders front and rear and mounted Metzeler tires to match. The total weight of Muffin is 244 pounds with the Elsinore gas tank. Believe me, when it comes to any drag or acceleration race, there is no muff too tough. Now that you've got an idea of what it takes to build the ultimate motorcycle, I'll give you an idea of what it's going to cost. Try about three thousand dollars. Referring back to the burnt-out cam bearings in your XL250 head, Bill Bell can machine your rocker covers and head back to new for about $20. As far as turning your XL250 into an XL350, you would have to replace not only your cylinder head, cylinder piston and crank assembly, but the gearbox ratios of the 250 would not work too well in a 400cc engine. If you're looking for an ultimate open class bike, I'd start with the XL350 motor. Best of luck and keep in touch.

WE'RE FIGHTING FOR YOUR LIFE

Exercise Regularly

American Heart Association

2 FOR 1 *HOLIDAY SPECIAL!*

BUY ONE OF THESE DYNAMITE MOTOCROSS SPECIALS . . .

BUY TWO — GET TWO FREE MAGAZINES!

Hurry — Offer expires Dec. 31, 1976

GET ONE OF THESE COLLECTOR ISSUES FREE!

MX-5-3

HI-TORQUE PUBLICATIONS, INC.
P.O. Box 317, Encino, California 91316

Name _____
Address _____
City _____
State _____ Zip _____

Please send magazine(s) checked.

☐ **Motocross Champions — $1.50**
☐ **MX Trans-Am — $1.50**

Send the following as my FREE copy(ies).
☐ 125 Tests
☐ European Stars
☐ U.S. Stars

Publisher reserves the right to substitute. Add 75c for each magazine ordered.

MOTOCROSS ACTION MAGAZINE

BACK ISSUES

July 73	Pierre Karsmakers
Aug. 73	How to Learn MX
Sept. 73	Maico 450
Oct. 73	GP Riders
Nov. 73	Yamaha YZ
Dec. 73	Marty Tripes Wonderboy
Jan. 74	Grand Prix
Feb. 74	Montana MX
Mar. 74	Biggest Race
April 74	Combat Wombat
May 74	The Sang Gang Takes Over
Aug. 74	DeCoster Interview
Sept. 74	Yamaha Moto Shock
Oct. 74	Czech Nabs Super Bowl
Nov. 74	DeCoster at U.S.G.P.
Dec. 74	125 World Cup
Jan. '75	Elsinore Fork Kit
Feb. '75	Magnetic Inspection
March '75	FMF Porting
April '75	SUDCO Carb Kit
May '75	Dallas Super Cross
June '75	Florida Series
July '75	Be a Motorcycle Mechanic
Aug. '75	Convert TM Suzuki
Sept. '75	Adjust your Chain
Oct. '75	Skunk Works Suspension
Nov. '75	MX Superbowl
Dec. '75	World and Nat. MX Champions
Jan. '76	Shot-Peening
Feb. '76	Trans-Ama
March '76	ROY Marty Smith
April '76	Convert Old Husky
May '76	Trans-Ama

Circle desired issues. Enclose $1.00 plus 50 cents postage and handling for each copy ordered.

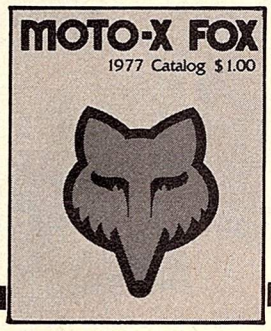
Hi-Torque Publications
Back Issues Dept.
P.O. Box 317, Encino, CA 91316

NAME _____
ADDRESS _____
CITY _____
STATE _____ ZIP _____

MX-12 **Enclose entire ad**

HOT TRIX, HOT OFF THE PRESS.

THE NEW MOTO-X FOX CATALOG.



Mail coupon and $1.00 to:

MOTO-X FOX

Dept. DB 520 McGlincy Lane, Campbell, California 95008 (408) 371-1221

Please send your '77 catalog to:

Name _____

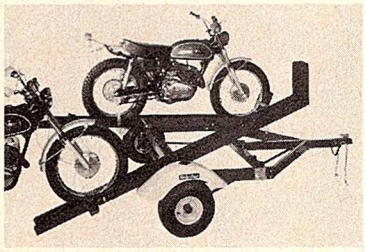
Address _____

City _____

State _____ Zip _____

Circle 16 on page 72

TAKE TWO FOR THE ROAD WITH A Holsclaw® TRAILER



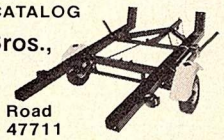
Hook up a Holsclaw and tow a pair of bikes or scooters anywhere you can take your car.

Just tilt the runners, roll on your two-wheelers and chain 'em down. Coil springs with double-acting shocks—like those that have gone millions of trouble-free miles on famous Holsclaw boat trailers. Two models to choose from.

WRITE FOR ILLUSTRATED CATALOG

Holsclaw Bros., Inc.

412 N. Willow Road
Evansville, Ind. 47711



Circle 17 on page 72

Continued from page 26

We also replaced the rear 50-tooth sprocket with one having 48 teeth. This gave us a slightly longer pull in each gear while keeping the advantage of using second gear for starts.

Other engine changes in the RM250B include the removal of one of the partitions in the transfer chambers so that now there are four scavenging flows through six ports, whereas the A-model has six flows through six ports. This increases scavenging volume somewhat. The piston, of course, is 3mm smaller, reflecting the reduced bore, and the tailpipe of the expansion chamber is 2mm larger in diameter to compensate for the new engine configuration. The silencer is also a little larger. The carburetor has been rejetted and the ignition system has been altered to produce desirable changes in the powerband.

Chassis changes include slightly more progressive front fork springs and a totally new steel box section swingarm with the lower shock mounts moved 31mm farther up to increase rear wheel travel to a total of 8.62 inches. Standard shock absorbers are now the remote gas canister types that were optional on the A-model. These shocks are more resistant to fade than the earlier ones, but still wear out after a few races and are not rebuildable.

What Suzuki has done with the introduction of the B-type motocrossers is to bring their state of the art one step closer to that of the European manufacturers. They have been able to combine the production techniques learned in the infamous TM production bike program with sound design foundations garnered from their outstandingly successful Grand Prix racing program. They have learned that power and handling are two pups from the same litter and what you do to one affects the other. The RM250B is the combination of practicality, performance and price Suzuki feels the American racing public wants. The balance is precarious. It's not quite as fast as some other bikes and it still has to be herded into bumpy turns, but if you wanted greater stability and more power, you'd have to pay the price.

The key word here for the enthusiast is practicality. Our test bike performed flawlessly throughout our test period, which not only included the aforementioned race, but a follow-up race, a day-long test session and a shot at the American Motocross Finals at the hands of professional racer Gary Ogden. It emerged from this grueling test of endurance without a single significant failure. Everything stayed tight and working. We used stock components except for an Al Baker fork kit and S&W shock absorbers which didn't work as well as the stock shocks.

The average racer, whether he be a seasoned Expert or a rank Novice, would do well to consider owning this bike if he's in the market for a competitive 250. Ridden correctly, it will stay with anything on the market in terms of sheer performance. A rider used to the smoothness of European machinery won't miss the feeling once he realizes how easy it is to maintain the bike, and a rider who's never ridden anything better, won't know the difference.

CLAY CAUTHORN

Texas State Champion in 1977
Class Winner World Mini G.P.
1976 Uses:

AJ RACING PRODUCTS

$275.00

AJ Works Gyt Kit

Its power is smooth and predictable for throttle control. Puts the power to the ground. Easy to maintain, simple to jet. Bolts on, no drilling, grinding, includes new barrel, G.P. porting, piston rings, gaskets, quick turn throttle, nylon coated cable, AJ jersey & T-shirt.

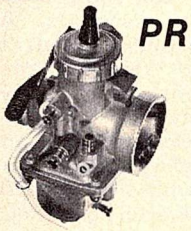
Send $1.00 for catalogue & sticker

AJ Racing Products

13860 Milbank Street, Sherman Oaks, Ca. 91423. (213) 784-4772.

No. 38
DG
PERFORMANCE SPECIALTIES INC.

1977 BOOK OF TRICKS $2.00, ORDER YOURS TODAY!



PRE-JETTED CARBS

DG's Mikuni Carbs have been specially pre-jetted for these bikes:

Air Boot and Manifold also available

YZ80	26mm	$40.95
YZ80	28mm	$42.95
CR125	30mm	$39.95
YZ125, CR125	32mm	$41.95
RM125, YZ125, CR125	34mm	$45.95
CR125 Pro	36mm	$46.95
CR125 Keihin	36mm	$57.95
YZ250, RM250	38mm	$49.95
TT500 Carb Kit	38mm	$79.95

5552 La Palma Avenue East
Anaheim, California 92806
714/996-4430

1977 BOOK OF TRICKS $2.00, ORDER YOURS TODAY!

Circle 19 on page 72

COMP

Bell RT Helmets (Red or Blue)	$34.95
American Pro MX Socks (Red or Yellow)	$4.95
Comp-Cross MX Peaks (White)	$1.95
Norstar or Munari MX Boots (8 to 13)	$59.95
Norstar or Munari MX Boots (4 to 7½)	$44.95
Fox Shocks	$84.95
Dual Rate Springs for Fox Shocks	$18.95
Fork Boots (Black, Yellow, or Red)	$5.95
Yamaha 8½" Travel Mono Kits	$39.95
*Best Buy – Girling Gas Shocks	$58.95
Springs for Girling Gas Shocks	$12.00
Comp-Cross C.P. Nylon/Leather MX Pants – Knee Cups – Lined – Very Light	$74.95
Red, White and Blue Hatch MX Gloves (Trick)	$8.95
Barum Berm Master Tires 3.25x21	$34.95
Oury or Oakley G.P. Grips	$3.25
Scott Goggles with Face Shield	$14.95
Scott Polarized with Face Shield	$17.95

CompCross Accessories ●
P.O. Box 1182
Downey, CA 90241

Circle 20 on page 72

CYLINDER HEADS

Continued from page 52

department. Now reach your hand way back in the back and get one of the cans that has dust all over the top of it. If the paint clerk wants to shake it for you, break his arm. No, just be careful that you don't shake the can, because we don't want to mix the paint up. Pay the man and head home. Once you are back home in the shop, take a small jar and open the can of silver paint. Pour the oil that is on top of the paint into the jar. There it is. Under the oil is liquid aluminum and instant head gasket. With a small paintbrush, paint the surface of your head and install it just like you would if it had a head gasket, and torque it down. Be sure that you pour the oil back into the can on top of the silver paint so it won't dry up on you. One half-pint can should get you through about ten years of motorcycles if you play it right.

Not everyone out there in racing land owns a pair of vernier calipers. If this is the position that you are in, there is another way for you to figure out the deck height in your engine. Run into the house and borrow some of junior's modeling clay and mom's scotch tape, masking tape, or if worse comes to worse, even a Band-aid will work. Remove the head from your engine and place the piston about a half-inch down in the bore. Now roll up a short string of clay about two inches long. Lay the clay on the piston with one end of the clay right up against the edge of the cylinder bore. Tape the other end of the clay to the center of the piston. Replace the head on the motorcycle and don't forget the head gasket. Torque the head back down just like you would if you were putting it back together for good. Remove the spark plug and kick over the motor a few times. Next, remove the head and very carefully remove the flattened clay from the piston. If you think that you may have changed the thickness of the flat part of the clay, do it all over again. When you are sure that you have the thickness just right, take the piece of clay and your head gasket to your local dealer and have him measure it for you. This way you know what you have and can take the necessary steps to correct the problem. ///

NEXT MONTH, PART TWO: E.C. explains the mysteries of compression ratios, what the numbers mean, the difference between what the factories tell you and what you've got, the difference between what you've got and what you should have, and how to get it.

Blanton Racing Products

CR 125 ENGINE KIT

Includes porcupine head, 32mm or 34mm Mikuni carburetor. Pro pipe, plus a port job by Dennis Blanton, former Team Honda Racing Manager. For port job, send your cylinder and intake manifold.

$189.00
suggested retail price,
plus freight.

We also carry the most complete line of accessories for your bike and body — FMF, Bel-Ray, JT Racing, Scott Goggles, Oury Grips, Al Baker, Long Beach Honda, Leak Proof Fork Seals.

The majority of our products have been race tested by Team Honda.

Send to: BRP, Rt. #1 85W-505
Rupert, Id. 83350 —
(208) 436-5746
For complete catalog send $1.50

Circle 18 on page 72

MOTOCROSS ACTION

RACIN' JERSEY

MOTOCROSS ACTION RACIN' JERSEYS are finally available to the public. They're just like the ones worn by the editors and test riders for MOTOCROSS ACTION MAGAZINE. All are bright, colored, vented, with reinforced elbows and the logo on both sides. ORDER TODAY!

MX-5-3
$14.95 + 50c postage and handling. Please send me _____ racin' jersey(s) S M L XL.
Enclosed is $ _____ check or money order.

PLUS PRODUCTS, INC.
MOTOCROSS RACIN' JERSEY
P.O. Box 14945 Las Vegas, Nev. 89114

Name _____
Address _____
City _____
State _____ Zip _____

READER SERVICE DEPT.

MOTOCROSS ACTION MAGAZINE

It's simple and fast!

Here's how it works:

(1) Print or type your name, address, city and state on the coupon below.

(2) Circle the code number on the coupon (please limit to 6 numbers) which corresponds to the number at the bottom of the ad on the page where the advertisement appears. Literature and the name of your nearest dealer will be sent directly and automatically from the advertiser.

(3) Place coupon in your own envelope. Enclose 25 cents to cover cost of postage and handling (please wrap the coin in paper — not in tape) and mail to:

READER SERVICE DEPT.
MOTOCROSS ACTION MAGAZINE
P.O. Box 317
Encino, California 91316

(Allow 6 to 8 weeks for processing.)

MX-5-3

Name _____

Address _____

City _____

State _____ Zip _____

1	2	3	4	5	51	52	53	54	55
6	7	8	9	10	56	57	58	59	60
11	12	13	14	15	61	62	63	64	65
16	17	18	19	20	66	67	68	69	70
21	22	23	24	25	71	72	73	74	75
26	27	28	29	30	76	77	78	79	80
31	32	33	34	35	81	82	83	84	85
36	37	38	39	40	86	87	88	89	90
41	42	43	44	45	91	92	93	94	95
46	47	48	49	50	96	97	98	99	100

In order to continue making MOTOCROSS ACTION the kind of magazine *you* want to read, we'd like your help by answering the following questions (circle the letter next to your answer):

1. AGE GROUP
a) a) Under 16
b) 16-20
c) 21-25
d) 26-30
e) 31-40
f) 41 and over

2. ANNUAL INCOME
a) Under $10,000
b) $10,000-$14,999
c) $15,000-$19,999
d) $20,000 or more

3. DO YOU OWN A MOTORCYCLE?
a) Yes
b) No

4. IF YES, HOW MANY? _____

5. WHAT MAKES DO YOU OWN?
a) Honda
b) Yamaha
c) Suzuki
d) Kawasaki
e) Bultaco
f) Montesa
g) Ossa
h) Maico
i) Triumph
j) Can-Am
k) Harley-Davidson
l) Rokon
m) Hodaka
n) Penton/KTM
p) Husqvarna
p) other

6. WHAT TYPE OF BIKES DO YOU OWN?
a) trail/enduro
b) motocross
c) street/trail
d) trials
e) flat-track
f) speedway

7. DO YOU COMPETE IN ORGANIZED COMPETITION? IF SO, WHICH TYPE?
a) motocross
b) enduros
c) trials
d) flat-track
e) speedway

8. DO YOU PLAN TO BUY A NEW BIKE WITHIN THE NEXT YEAR?
a) yes
b) no

9. IF "YES", WHAT MAKE DO YOU PLAN TO BUY? _____

10. HOW MUCH MONEY DO YOU PLAN TO SPEND ON ACCESSORIES FOR YOURSELF AND YOUR BIKE THIS YEAR?
a) $0-$25
b) $25-50
c) $50-$100
d) $100-$200
e) $200-$400
f) $400 and over

11. IN ORDER, WHICH FIVE TYPES OF ARTICLES INTEREST YOU THE MOST?
a) competition
b) technical
c) new bike tests
d) personality features
e) product evaluations
f) other
1st _____
2nd _____
3rd _____
4th _____
5th _____

12. IN ORDER, WHICH FIVE MOTORCYCLE MAGAZINES DO YOU READ MOST OFTEN?

(insert letter)

a) Dirt Bike — 1st _____
b) Motocross Action — 2nd _____
c) Cycle — 3rd _____
d) Cycle World — 4th _____
e) Cycle Guide — 5th _____
f) Popular Cycling
g) other

CLASSIFIED

RATES FOR READERS: 20 words for $2,00; 25 cents each additional word. COMMERCIAL RATES: 30 cents per word: minimum $10.00. Only one ad per advertiser permitted at these rates in any one edition; maximum of 50 words. No invoicing; payment must accompany orders, including firms on account with display advertising. No commissions, frequency rates or discounts. Ads accepted on the condition that the advertiser agrees to refund reader's money promptly if shipment is delayed and reader requests refund, or if merchandise is returned (in good condition in reasonable period of time). Display style ads permitted in classified section at display advertising rates.

THE UN-ASSOCIATION Motorcyclists Union. Be a charter member of a newly formed consumer action group. Present your views on the role motorcycling will take in today's society. $6.00 — year. $3.50 — six months trial membership. Send for information: MOTORCYCLISTS UNION, 532 Main St., Groveport, OH 43125.

"STREET BIKES SUCK" or "DO IT IN THE DIRT," vinyl bumper stickers, your choice, $1. Inquire wholesale, DOWNHILL SALES, P.O. Box 19999, New Orleans, LA 70119.

1976 HUSQVARNA 360 CR. Marzocchi forks, Fox Shox, Sun rims, Curtis ignition, Barum wraparound, Metzeler, excellent, $1370, delivered anywhere. 201-387-1450.

PATCHES FOR YOUR CLUB — Let them know who you are! Send sketch for free price quote. Send camera-ready colored artwork and get one patch free with order. Free catalog. EASTERN EMBLEM MFG. CORP., P.O. Box 828, Dept. MC, Union City, New Jersey 07087.

INDEX TO ADVERTISERS

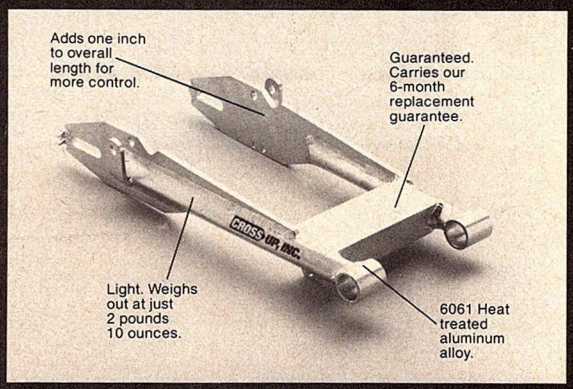
AJ Racing Products 70
Auto Reports 58
Blanton Racing Products 71
Bultaco International 76
Can't Find Issue 68
Change of Address 15
Color Posters 62
Competition Motocross 71
Crash & Burn 66
Cross-Up 74
DB Buyer's Guide 63
DG Performance 71
General Extrusions, Inc. 7
Gold Belt Line Inc. 9
Holsclaw Bros. Inc. 70
Hot To One Shots 67
JT Racing Inc. 27
Laidig's 7
Lancer Leather 2
Maico Motorcycle Inc. 47
Motocross Center 64
Moto-X Fox 70
Motocross Action Back Issues 69
MXA Champs 66
MXA One Shots 69
MXA Racing Jersey 71
MXA Reader Service 72
MXA Subscriptions Ad 5
North American School of Motorcycle Repair 9
Number One Products 64
Performance Products Unltd. 53
Performance Dist. Inc. 13
Photo Album One Shots 67
Soccer Corner 9
Stonehouse 68
Tank-T-Shirts 65
Trick Distributing 6
Trik Products 15, 68
U.S. Navy 16

berm shot

Bill Grossi of Team Suzuki does a split maintaining precarious control of his motorcycle at the Saddleback Trans-AMA.

Photo by Patti Trotter

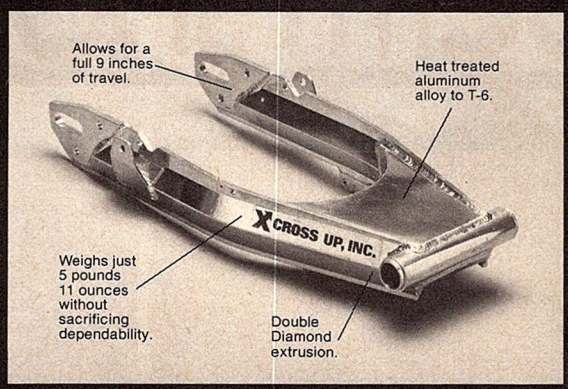
RM-80.


Adds one inch to overall length for more control.
Guaranteed. Carries our 6-month replacement guarantee.
Light. Weighs out at just 2 pounds 10 ounces.
6061 Heat treated aluminum alloy.
CROSS UP, INC.

This RM-80 is the newest addition to the CROSS UP line of extruded alloy swing arms. Made of 6061 aluminum heat treated to a T-6 condition, this swing arm weighs a mere 2 pounds 10 ounces. It greatly reduces the unsprung weight to increase shock life and enhance handling characteristics. Adds one inch to overall length to improve tracking and controllability and carries our 6-month replacement guarantee. $90.

X CROSS UP, INC.

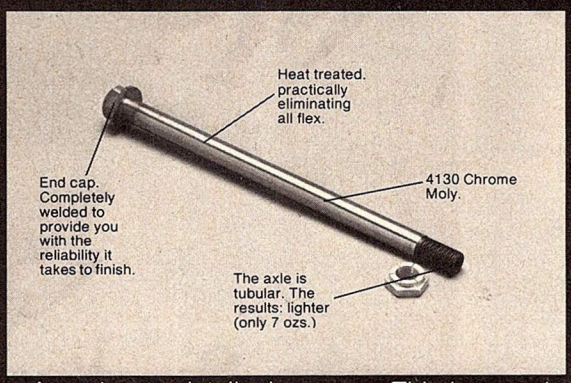
Weight watcher.


Allows for a full 9 inches of travel.
Heat treated aluminum alloy to T-6.
Weighs just 5 pounds 11 ounces without sacrificing dependability.
Double Diamond extrusion.
X CROSS UP, INC.

Models for the RM 125A and the RM 250-370. Both swingarms utilize our patent 6061 Double Diamond Extrusion which is heat treated to a T-6 condition, producing just 5 pounds 11 ounces of unsprung weight. This unique design eliminates flex and allows for a full 9 inches of travel. It carries our 6-month replacement guarantee. $130.

X CROSS UP, INC.

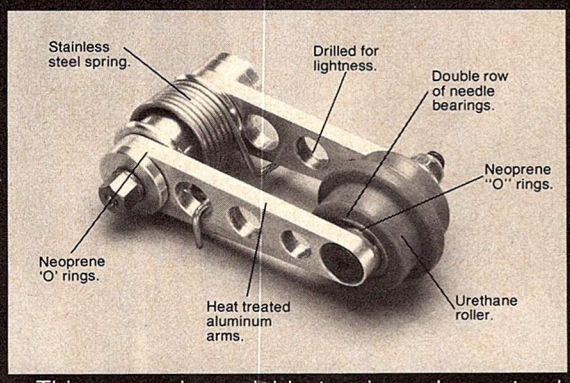
Tubular.


Heat treated. practically eliminating all flex.
End cap. Completely welded to provide you with the reliability it takes to finish.
4130 Chrome Moly.
The axle is tubular. The results: lighter (only 7 ozs.)

Attention to detail wins races. This is an axle that only CROSS UP could design and produce. Made out of heat treated TUBULAR 4130 chrome moly to fit the CR 125 and the RM 250-370. It weighs an amazing 7 ounces, and this axle allows for no unnecessary flex—and breakage is virtually unheard of. Definitely the strongest, lightest and most indestructible axle on the market. $20.

X CROSS UP, INC.

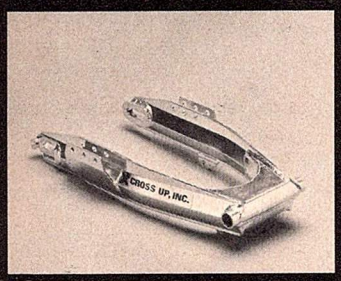
The finisher.



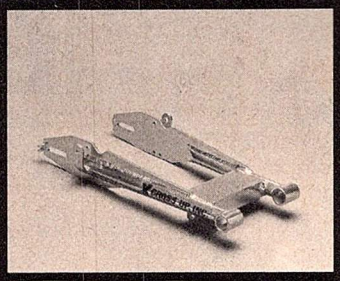
This super dependable tensioner has a track record as long as Baja itself. Track record, you ask? Ask Bob Rutten and Bruce Ogilvie who won the 250 Baja 1000. Ask Mark Riker who won the 125 Electro Helmet Series. And finally, ask yourself, is finishing consistently worth a $50 tensioner?

X CROSS UP, INC.

"PARTS FOR PROS"

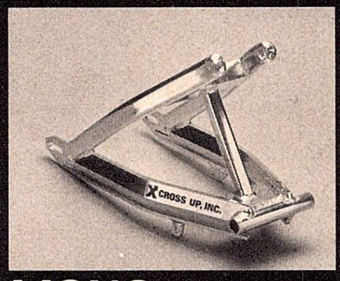


CR 125 Heat treated 6061 aluminum swing arm utilizing our unique DOUBLE DIAMOND extrusion. It weighs only 4 pounds 12 ounces, offers a full 9 inches of travel and gives you a 3 position shock mount. (For 13½", 14½" and 15½" shocks.) Covered by our 6 month replacement guarantee. $130.

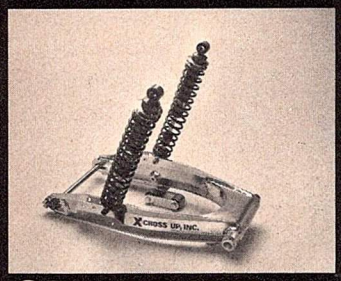


YZ80/XR75 These swing arms add one inch to overall length. This allows for better tracking and more control. The unsprung weight is reduced considerably with these aluminum 2 pound 9 ounce units. These swing arms carry our 6 month replacement guarantee. $90.

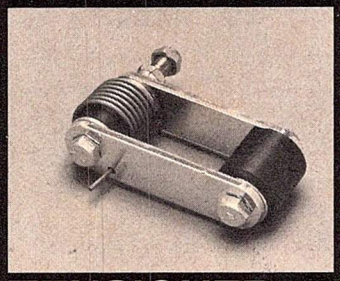
T-SHIRT 100% cotton silk screened with the famous CROSS UP logo in black on a white shirt with black trim. Available in small, medium, large and extra large, and in children's sizes. A great way to tell people you buy only the best. $5.



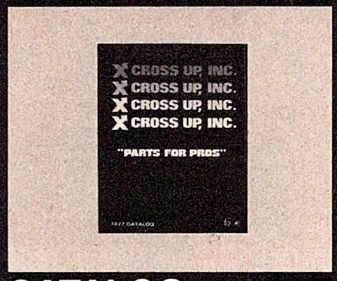
MONO This arm incorporates our DOUBLE DIAMOND aluminum extrusion and weighs only 5 pounds 3 ounces. Once assembled, it is heat treated to a T-6 condition. With the YZ 125, 250-400 model, you may retain your stock axle, $150.



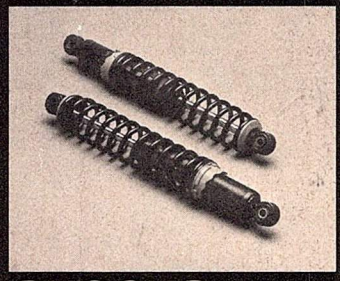
CR 125 KIT This kit comes complete with GAS GIRLINGS or S&W freon shocks, a heat treated tubular 4130 chrome moly axle, our $16 chain tensioner and our space age bushings. With the installation of this kit you completely revamp the handling characteristics of your bike. Complete kit $240.



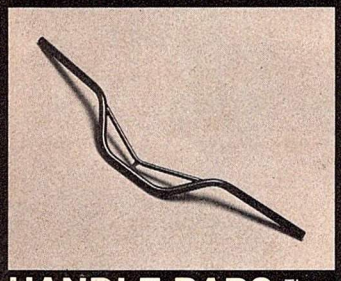
TENSIONER This chain tensioner fits only the CROSS UP aluminum swing arms. The guide wheel is long wearing but flexible enough to keep the proper tension on the chain. All hardware is developed from the finest quality materials available. Replacement spring and roller kits are $4. Complete unit $16.



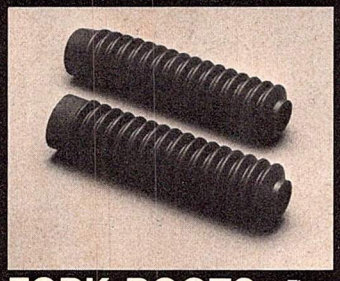
CATALOG Finally our 1977 catalog is off the press. It's packed with the complete line of CROSS UP products. Items you don't see in our ads and new ones we don't have room for. It's the only catalogue you'll need this year. $2.



SHOCKS CROSS UP, INC. evaluates the GAS GIRLING and the S&W long travel freon cell shocks as the top shocks on the market today. Long wearing, these shocks are available in all popular lengths with springs to match. Prices start at $90.

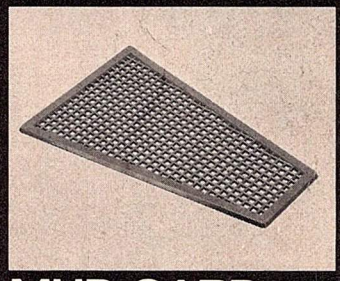


HANDLE BARS These handle bars were developed by GARY JONES, 3 time national 250 MX champ. They are made from heat-treated 4130 chrome moly tubing and sport a unique heliarc center design that offers more protection to face and chest. Weighs only 2 pounds 7 ozs. Available in black only. $21.

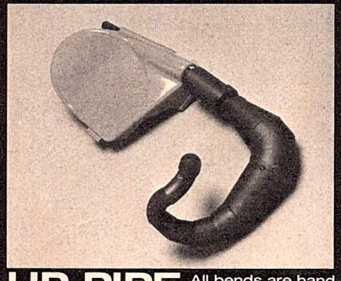


FORK BOOTS These boots allow for a full 10 inches of fork travel. Mandatory on newer bikes or those with long travel fork kits. Extend the seal life, thus cut down on maintenance expenses. Nylon ties included and available in 4 colors. Red, yellow, blue & black. $9.

FORK KIT The AL BAKER R&D fork kit is the best on the market to date. The kit offers a full 9 inches of travel, a must with long travel swing arms. Available for all 125 Hondas and all RM and RM A&B Suzukis. All hardware included. $60.



MUD GARD Caked mud on the front of your engine can only mean overheating problems. This MUD GARD keeps the bulk of the mud away and lets your engine run cleaner and cooler. Available in red only. $9.



UP PIPE All bends are hand formed for maximum exhaust flow. This unique CROSS UP, INC. design greatly increases power in all ranges. Tuned for maximum output of your engine. Available for the 1976 CR 125, RM A&B 125, YZ 80 and YZ 125 mono. Comes complete with all hardware. Prices start at $55.

DOWN PIPE This unique CROSS UP, INC. design greatly increases power in all ranges. All bends are hand-formed for maximum flow and tuned for maximum output of your engine. Available for the CR 125 only. Comes complete with all hardware, ready to install. $50.

PORTING Add to your power band like no other porting can with CROSS UP's new tunnel velocity port. Definitely the highest quality port work around. Available in stages for beginner to pro. Call for your tunnel velocity appointment and price today. 100cc kits available.

HAT Top quality race hat with the famous CROSS UP, INC. logo sewn on the front. Large bill, cool mesh top; it's adjustable and washable. Definitely a nice looking, comfortable hat that does what it's suppose to do. $4.

CALL US TOLL FREE
800·421·1435

DIAL 213-549-6800 FROM CALIFORNIA

117 WEST "B" STREET, WILMINGTON, CALIFORNIA 90744

ABSURD.

If F.X. Bulto decided to put his symbol on a baby grand, the piano would be as famous for quality as his motorcycles.

But he won't.

Señor Bulto, his family and associates founded the Bultaco tradition on a singular product. Motorcycles.

We don't have to tool up for keyboards one week and transmissions the next.

We channel all of our resources to designing and crafting an off road motorcycle of utmost quality. The kind of quality that makes riding so rewarding. Whether you're competing or cowtrailing. The kind that lets us offer a full sixty day warranty on our bikes.

Do not be surprised when you see other motorcycle manufacturers continue to put their resources and names on other products. You'll see the Bultaco name on just one.

A top quality motorcycle. Built by a company that makes motorcycles.

And nothing else.

Our Only Product.